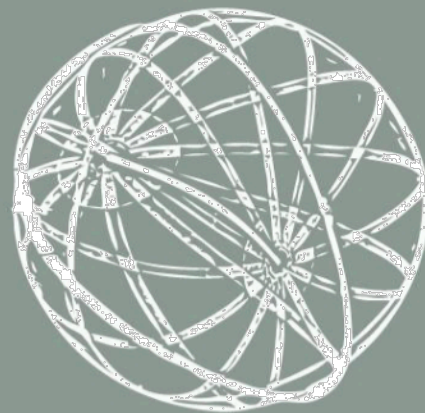


# CIUHCT



Centro Interuniversitário de História das Ciências e da Tecnologia  
FCUL | FCT - UNL





# Evaluation Visit Panel FCT 2014

**10h30** Presentation of CIUHCT's PEST 2015-20 by the coordinator (15') and highlights of the 2 research groups by their principal investigators (5'+5'), followed by discussion.

**11h30** Visit to CIUHCT's premises and the library housing History of STM books (optional)

**11h50** Coffee Break

**12h00** Meeting with PhD students

**12h30** Meeting with Post-docs

**13h00** Meeting with senior and junior integrated members'



# A bit of History

1997-2007

Center for the History and Philosophy  
of Science and Technology of the  
New University of Lisbon  
(CHFCT-FCT/UNL)

2003-2007

Center for the History of Science of the  
University of Lisbon  
(CHCUL)



**2007: Fusion of CHCUL and CHFCT into the  
Interuniversity Center for the History of  
Science and Technology (CIUHCT)**

2007-2014

CIUHCT UNL Group: Science and Technology  
(i). Historical and Interdisciplinary Studies;  
CIUHCT UL Group: Science and Technology  
(ii). Historical Studies and Material Culture





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Lecture series

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search...

## Focus

### CIUHCT: Portuguese research unit in history with highest score of WoS publications

according to a survey commissioned by FCT....

### Marta Lourenço (CIUHCT member) awarded George Sarton medal

Ghent, 5 May 2014....

### Maria Paula Diogo (CIUHCT member) awarded Freeman Prize

### CIUHCT organised two large International Conferences: ESHS and STEP

Lisbon, 1-3 and 4-6 September 2014....

### New issue of HoST journal

See HERE....

### Magnificent seventeenth century physics cabinet of the Science Museum-University of Coimbra inscribed on the list of "European Historic Sites of Physics"

## Two recent books



Alice Santiago Faria, Pedro M. P. Raposo (eds.), *Mobilidade e circulação: perspectivas em História da Ciência e da Tecnologia* (Lisboa: CIUHCT/CHAM, 2014) 105 p. ISBN: 978-989-96231-4-9

Descarregar AQUÍ.

Mais informações...



Ana Carneiro, Teresa Salomé Mota, Vanda Leitão *O Chão que Pisamos. A Geologia ao Serviço do Estado (1848-1974)* (Lisboa: Edições Colibri/CIUHCT, 2014) 251 p. ISBN: 978-989-689-375-0

Encomendar na Livraria Colibri, FCSH/UNL, Av. de Berna, ou no Museu Geológico (a partir de 27/5/2014), ou AQUÍ.

Mais informações...

## News

- 7º Encontro Luso-Brasileiro de História da Matemática, Obidos  
De assinalar  
October 15, 2014 - October 19, 2014
- Colloques: "Les empires périphériques et l'Europe des Lumières...", U. Evora  
De assinalar  
October 15, 2014 - October 17, 2014
- "No encaicho de cientistas de campo: cruzando conhecimento e império na era da descolonização"  
De assinalar  
October 15, 2014
- Curso de História da Medicina Tropical, coordenado por Isabel Amaral  
De assinalar  
October 15, 2014
- 2nd CHAM International Conference, "Knowledge Transfer and Cultural Exchanges", Lisboa, 2015  
CFP - Call for papers  
October 18, 2014
- La Gran Historia: de la Nada al Todo  
Conferências CIUHCT  
October 20, 2014
- "The Shape of the History of Science Profession, 2038: A Prospective Retrospective"  
Journalclub  
October 24, 2014
- Um estudo exploratório sobre ações educativas em museus de ciências de Lisboa  
Estudos de caso em história de cultura material  
October 27, 2014
- Postdoctoral Fellowship for up to two years at the Max Planck Institute for the History of Science  
De assinalar  
October 30, 2014
- Job: Assistant Professor in the History of Technology at Eindhoven University of Technology  
De assinalar  
October 31, 2014

See calendar...

current issue | past issues | events | submissions | about the journal

current issue » Vol.7, Spring 2013 » cover

COVER

articles

Luís Miguel Carolino and Teresa Salomé Mota  
Introduction

Ana Cardoso de Matos  
The influence of the Ecole des ponts et chaussées de Paris on the Lisbon Polytechnic School (1836–1860)

Antoni Roca-Rosell  
Industrial Engineering in Spain, the challenge of a new liberal profession in the Nineteenth Century

Luís Miguel Carolino, Teresa Salomé Mota and Dulce Figueredo  
The Portuguese Polytechnicians of the "long nineteenth century": technical expertise, military aspirations, and political disenchantment. A preliminary study

Maria Paula Diogo  
Portuguese engineers, public works, and professional identity. The Portuguese Association of Civil Engineers (1869–1937)

Pedro M. P. Raposo  
Surveyors of the Promised Land: hydrographic engineers and the techno-scientific resurgence of the Portuguese overseas empire (c. 1900–1935)

work in progress

M. Luísa Sousa  
Work in Progress: Automobility in Portugal. The construction of the sociotechnical system, 1920-1950

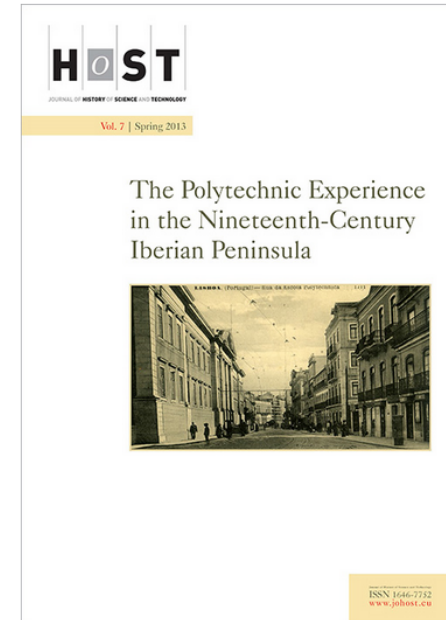
reviews

Agustí Nieto-Galan  
Uma História da Faculdade de Ciências das Universidades de Lisboa (1911-1974)

José Ramón Bantoumou Sánchez  
Neither Physics nor Chemistry. A History of Quantum Chemistry

online ISSN 1646-7752

complete issue in PDF [2841k]



Cover: Print of the Lisbon Polytechnic School in the nineteenth century. Archive of Lisbon Municipality.

pdf version [308K] top

## past issues

- > Vol.8, Fall 2012
- > Vol.5, Spring 2012
- > Vol.4, Fall 2010
- > Vol.3, Fall 2009
- > Vol.2, Fall 2009
- > Vol.1, Summer 2007

## events

- > 2012/13 HoST Seminars
- > past events

## submissions

- > guidelines for authors
- > instructions for book reviewers

## about the journal

- > about the journal
- > editorial board

## rss feeds

- > rss feeds

# CIUHCT 2008-2012(-2013) in numbers

- No. of researchers, including Post-Docs and PhD students: 42 to 52 (to 57)
- PhD theses under the supervision of integrated members: 5 (to 9)
- Publications in international peer reviewed journals: 107 (to 130)
- Books and chapters of international distribution: 176 (to 191)
- MSc Theses under the supervision of integrated members: 14 (to 22)
- *Compromisso com a Ciência* Researchers: 2
- Publications in national peer reviewed journals: 90 (to 105)
- Organization of international meetings or sessions in meetings: 124 (to 156)
- Exhibitions: 18 (to 25)
- Communications delivered at national and international meetings: 786 (to 927)
- Books and Chapters of national distribution: 121 (to 167)

 Trend accentuated in 2014



# Budget 2008-12 and Funded Projects

## Core Budget

- Pluriannual Programme/Strategic project: 357.711 €
- FCT-funded projects: 388.162 €
- Other international projects: 31.610 €
- Other national projects: 18.000 €

## Funded Projects

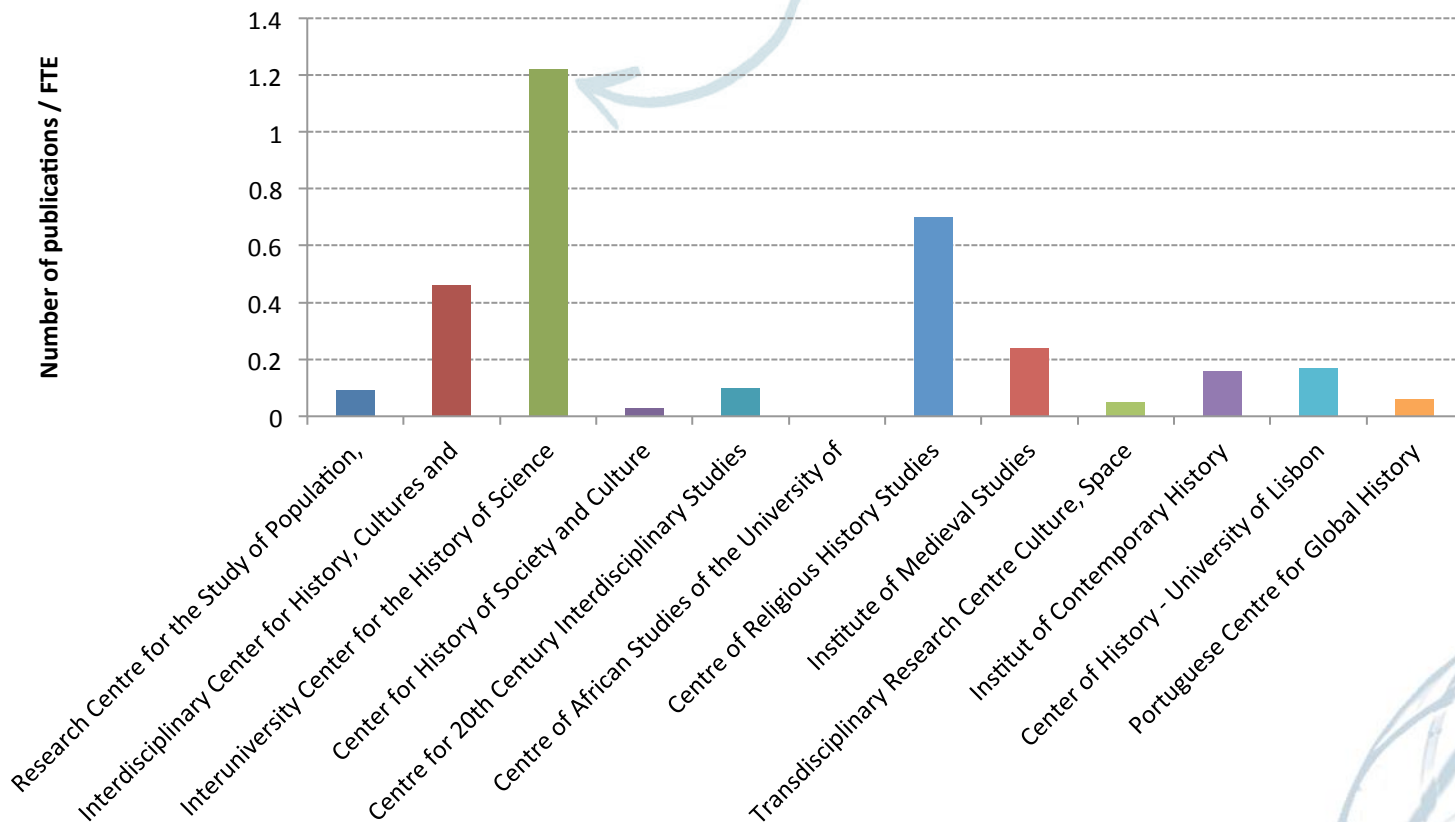
- *Making Europe. Technologies and Transformations, 1850-2000*
- *Edition of Complete Works of Pedro Nunes*
- *Thesaurus of scientific instruments in Portuguese*
- *Reshaping Africa. Portuguese Engineering and Territorial Management*
- *'Ilhas Afortunadas' on the preservation and access of manuscripts and drawings of the Portuguese naturalist Francisco de Arruda Furtado (1854-1887)*



# CIUHCT as an FCT leading research center in the Humanities

At a national level, CIUHCT is FCT research unit in History with more publications in WoS:

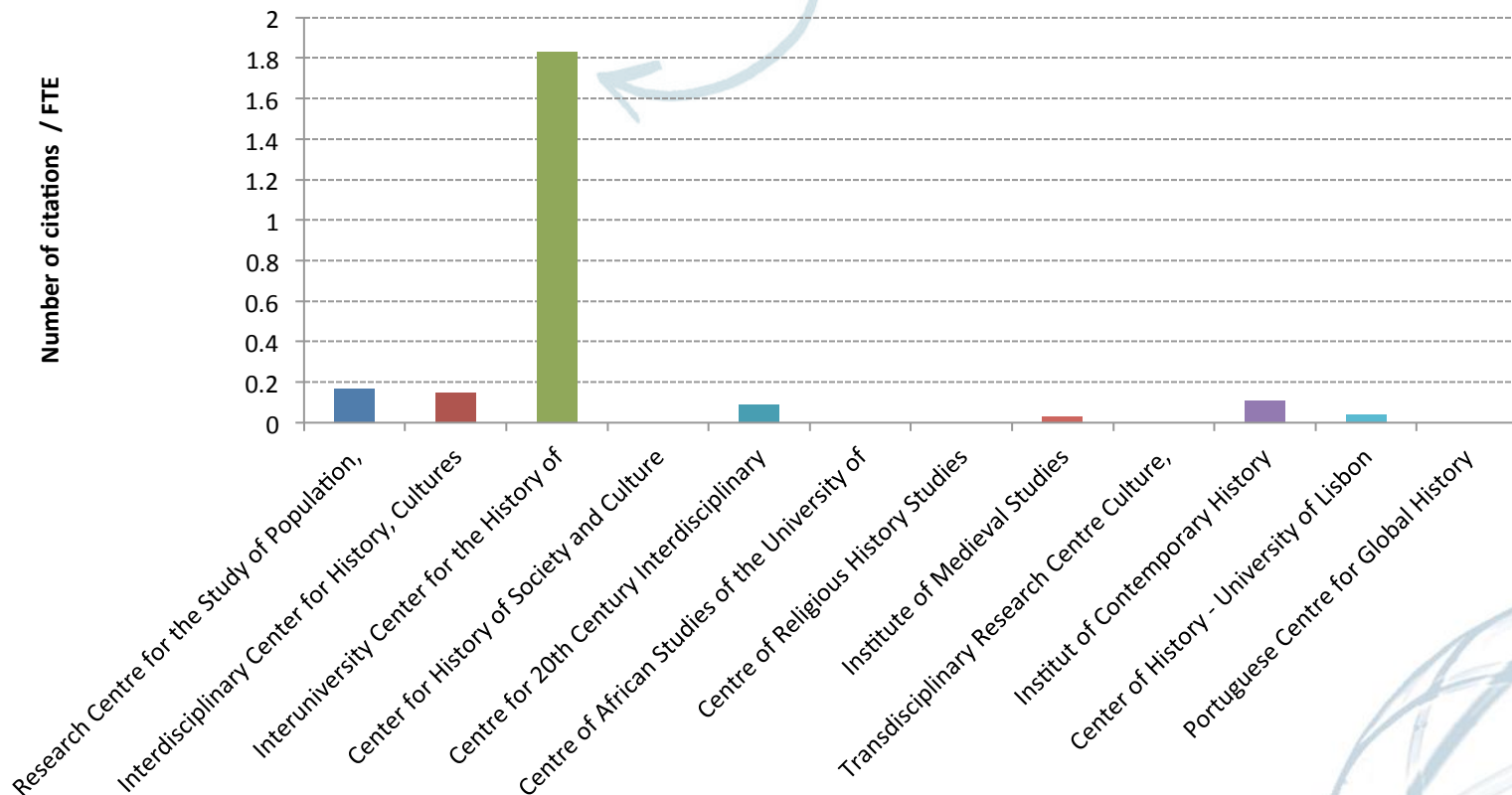
🌐 Publications per FTE



# CIUHCT as an FCT leading research center in the Humanities

At a national level, CIUHCT is FCT research unit in History with more publications in WoS:

 Citations per FTE

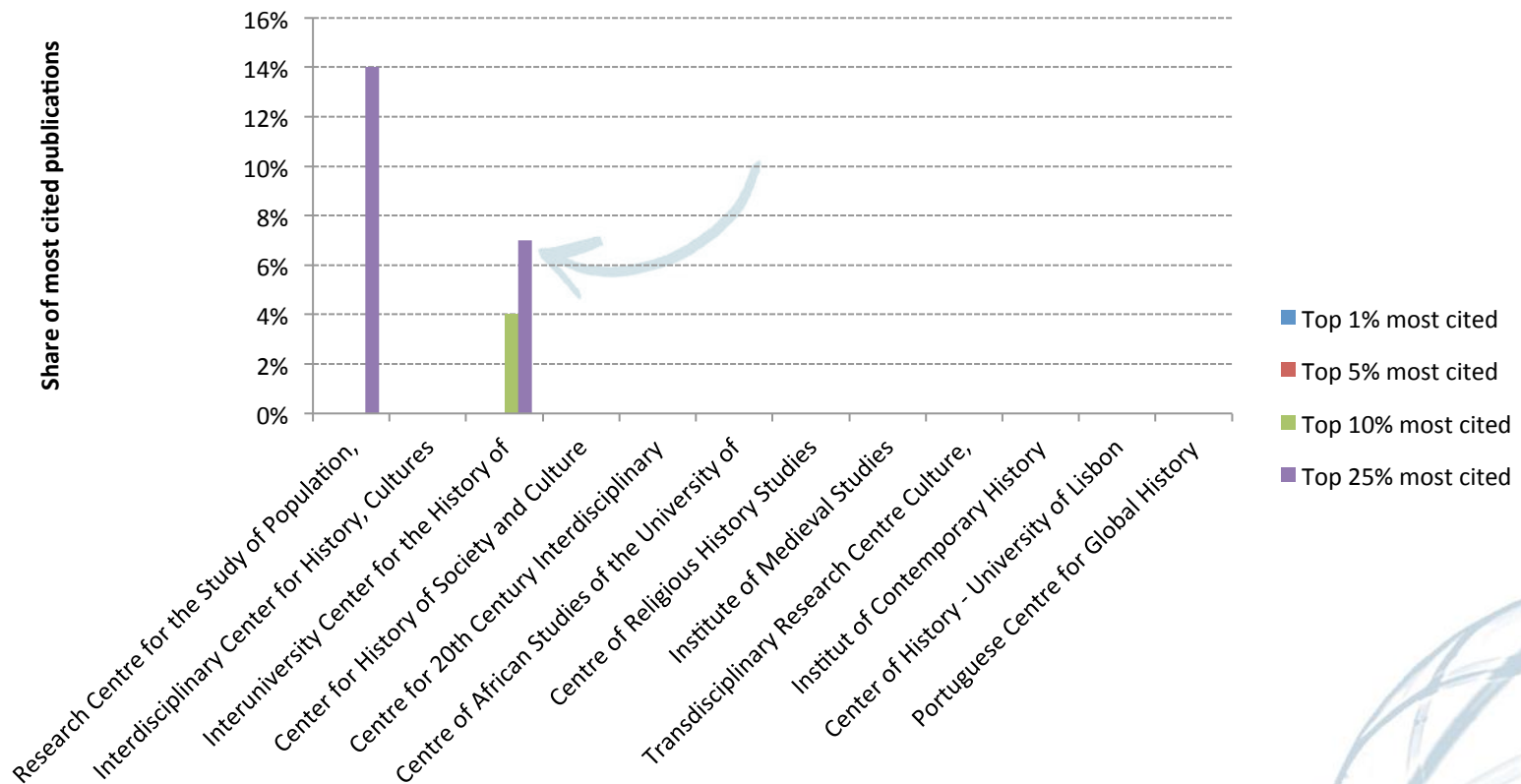




# CIUHCT as an FCT leading research center in the Humanities

At a national level, CIUHCT is FCT research unit in History with more publications in WoS:

🌐 Share of top cited publications



# CIUHCT as an FCT leading research center in the Humanities

Using the European benchmark in History and Philosophy of Science and Technology, CIUHCT's position matches the European average:

- Average citation per paper (excluding self citations):  
1,45 (Europe) / 1,45 (CIUHCT)
- Average number of papers w/o citations:  
51,6 (Europe) / 45,5 (CIUHCT)
- Expected Average with corrections for the area:  
0,95 (Europe) / 0,72 (CIUHCT)
- Average impact of journals in which papers were published:  
0,92 (Europe) / 0,83 (CIUHCT)
- Publications in Top 10 journals of the field:  
9,3 (Europe) / 9,2 (CIUHCT)



# CIUHCT PEST 2015-2020

**Vision:** to become a leading European research unit in the field of STM studies.

**Mission:** to continue producing high quality research in HMC of STM, contributing to its establishment as a solid scientific field in Portugal, fully integrated in the international community.

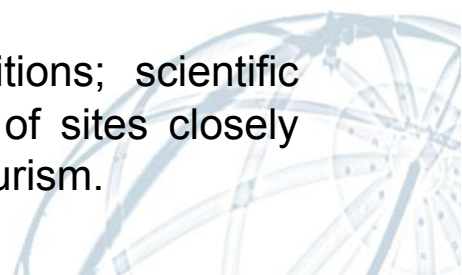
## **Goals:**

- 1) to inscribe STM in Portuguese and European history, by unveiling the importance of STM in the construction of the European space;
- 2) to increase the presence of Portuguese studies in the international map of the history and material culture of STM;
- 3) to foster a multidisciplinary STM approach, by bringing together scholars of different branches of the social sciences and humanities.



# CIUHCT PEST 2015-2020

The implementation of CIUHCT's objectives will be materialized into global sets of outputs:

- **High scholarly research level:** peer-reviewed publications in international outlets (WoS and Scopus), books, edited volumes, chapters of books, and communications in international congresses organized by reputed international societies; peer-reviewed publications in national journals, books, including CIUHCT's series, edited volumes, chapters of books, dictionary entries and bibliographic guide. At least a meeting of a major STM scientific society is to be organized by CIUHCT in Portugal every 3 years.
  - **Heritage level:** design and scientific support of the Museum of Natural History and Science's permanent exhibition program, restoration and design of the museological program of the Astronomical Observatory of Lisbon, and proposal of new exhibition programs both in private and public institutions, including the possibility of new museums.
  - **Training level:** 1 MSc and 2 PhD programs HP of STM, supervision of new Post-Docs, and application for a FCT international Doctoral Program, still pending evaluation.
  - **Outreach level:** publications and talks for general public; exhibitions; scientific consulting to support urban regeneration including the preservation of sites closely related to the production of STM knowledge in Lisbon, and scientific tourism.
- 

# CIUHCT PEST 2015-2020

The implementation of CIUHCT's objectives will be materialized into the following flagship outputs:

- ④ Dictionary of Biographies of Portuguese scientists, engineers and physicians or those working in Portugal (paper version and online database).
- ④ Bibliography of the History of STM in Portugal listing publications since 2005 on the history of STM in Portugal, and/or by Portuguese scholars.
- ④ Edited volume of History of STM in Portugal (Portuguese and English version).
- ④ Publication of HoST international open-access e-journal on a regular basis (twice a year), securing its inclusion in a reputed database, such as SCIMAGO.



# CIUHCT PEST 2015-2020

Total 57 members: 24 integrated members and 33 PhD-students and other researchers

- Two Groups: Both groups' agendas are complementary, mutually reinforcing, and united by the exploration of common methodological tools anchored on the core concepts of **circulation, appropriation and innovation**.
- The **flagship outputs** are innovative and will generate a capital of knowledge on STM in Portugal that is indispensable to the national community of STM historians and will secure a sustainable participation in international forums. The groups' outputs contribute both to the flagship outputs and specific topics within their agendas.

Group 1

## Instruments and Practices, Visual and Material Cultures

9 integrated members, 6 PhD students and 6 researchers

Emphasis on objects-based research and interbreeding of STM practices with material culture, in order to address the globalization of European culture from the standpoint of early modern Iberian contributions and to offer a privileged standpoint to scrutinize the European notion of innovation and its difference from dissimilar notions behind the organization of non-European empires.

Group 2

## Experts, Institutions and Globalization

15 integrated members, 12 PhD students and 9 researchers

Offers a comparative assessment of the co-construction of STM knowledge-in-motion and the political agendas of the various political regimes that ruled Portugal and its colonies since the 18th century. It is particularly suited to enlighten contemporary hot topics such as innovation, knowledge and reflexive societies, through the seldom used, but extremely useful, lenses of STM history, philosophy and sociology.

# Internationalization (i)

## Research

- international publications in WoS indexed journals;
  - other publications in reputed international forums;
  - communications in reputed international conferences (1-2 per member and year);
  - organization of sessions in international conferences abroad;
  - organization of international conferences in Portugal;
  - sustained participation in international networks, such as STEP, Tensions of Europe and INES;
  - establishment of protocols enhancing scientific collaboration involving institutions such as MAST and FIOCRUZ (Brazil), MPIWG (under discussion) as well Twinning with MPIWG and Sorbonne;
  - participation in a project to be submitted to the Horizon 2020, call 5, together with the Institute for Contemporary History (IFZ), Munich;
  - participation as partners in international research programs such as the *Making Europe* book series.
- 

# Internationalization (ii)

## Training

- increasing attraction of MSc and PhD foreign students;
- increasing attraction of foreign Post-Docs and FCT researchers;
- pending evaluation of a FCT PhD program in HP&MC of STM involving foreign higher-education institutions (Spain and Brazil);
- sustained participation of senior CIUHCT members and Post-Docs in higher-education programs abroad (Universidade Federal da Bahia, FIOCRUZ, UNIRIO, Brazil, and Cabo Verde);
- organization of three international summer schools;
- participation in the application for 2 Marie Curie excellence scholarships in training.

## Outreach

- Under discussion is the possibility to bring the exhibit "360° Ciência Descoberta" conceived entirely by CIUHCT members and organized by Calouste Gulbenkian Foundation (2013) to Brazil and Spain.



# Governance

CIUHCT has imposed more stringent criteria than those of FCT, bearing in mind the unit's bid on internationalization, impact and outreach

## Criteria for CIUHCT Integrated members

### **Members whose PhD was awarded before 31 Dec 2009:**

5 publications, including at least one of the following listed items:

- 1 paper listed in Scimago (Q1 or Q2)
- 1 authored/ edited volume in a international academic publisher
- 1 book chapter in a reputed international publisher
- 1 organization of an exhibition in a reputed institution
- 2 books/book chapters in national publishers, including popularization.
- 2 papers in Scimago (Q3 or Q4)
- 2 papers Latindex

### **Members whose PhD was awarded after 31 Dec 2009:**

2 publications:

including PhD dissertation, one of which has to be in an international outlet




# Governance and Accountability

## Internal Governance Bodies

- Scientific Council, chaired by CIUHCT's Coordinator, and including the Vice-Coordinator, coordinators of each group, plus a maximum of two extra members elected by integrated members.
- Scientific Council meets every 2 months to monitor the implementation of CIUHCT's strategic program and operational plans, and issues a report every six months. Groups' activities are monitored by detailed plans, and Group's coordinators report to the Scientific Council.
- Annual Reports issued by the Scientific Council and made public in CIUHCT's web-page will be presented and discussed by all members.


## External Governance Bodies

- CEPAC (Permanent External Scientific Advisory Board) yearly visits and reports discussed with CIUHCT's members and internal governance bodies.
  - Additional consultants called for specific recommendations.
- 

# Budget

60% dedicated to training of PhD students and Post-Docs

The budget reflects CIUHCT's strategic aim of excellence in STM research by means of:

- **Internationalization:** missions, summer-schools, HoST on-line;
  - **Consolidation** of the area of History of STM in Portugal through the training of young scholars: 6BD, 6BPD; summer-schools, CIUHCT's book series;
  - **Flagship outputs:** 2 BI
  - **Dissemination activities:** on-line databases and e-books
- 

# CIUHCT | SWOT Analysis

Internal

## STRENGTHS

- Better positioned FCT unit in the Humanities (bibliometric studies), among the top 3 in Iberian Peninsula and top 10 in Europe;
- Strong leadership, simple but efficient governance and accountability bodies;
- Excellent networking, international partners, CIUHCT has become an attractive research center for foreign young scholars;
- Strong emphasis on internationalization (publication of papers, meetings abroad, networking, panels, projects...);
- High mobility and circulation;
- Ability to support FCT Investigators (LMC, CC, various applications);
- Flagships;
- Focus (but not restricted to) on Portuguese topics as a way to enrich both national and international historiography;
- Ability to foster a multi-disciplinary approach by bringing together scholars from different branches of Social Sciences and Humanities;
- Ability to use history and material culture to enlighten contemporary topics by addressing topics such as brain-drain, innovations, centres and peripheries, inclusion and exclusion, scientific and educational policies;
- Excellent MSc and PhD programs recently evaluated by A3ES with basically no negative comments;
- Often graduate students trained in CIUHCT remain associated with CIUHCT;
- Increasing ability to attract foreign PhD students and Post-Docs;
- Strong emphasis on outreach programs covering different typologies.

## WEAKNESSES

- Despite CIUHCT's efforts, HSTM is still considered marginal as far as History is concerned;
- Confinement of main CIUHCT's activities to the academic milieu;
- Unequal balance on research in S, T and M among CIUHCT's research groups and members. In particular medicine and life sciences;
- Comparative HSTM studies are still a minor component of CIUHCT's research;
- A great percentage of senior CIUHCT's members is associated with the University of Lisbon and New University of Lisbon;
- No competitors among FCT research centers;
- Budget mainly centered on FCT;
- Low experience in competing for EU funding;
- Pending evaluation of FCT International Doctoral Program in HMC of STM.

External

## OPPORTUNITIES

- Bridging towards other areas of the national community of historians;
- Increase scientific criteria to become a CIUHCT's integrated member;
- Create incentives for outstandingly junior productive members (extra funds for missions). CIUHCT advocates incentives and not penalties;
- Reinforce CIUHCT's presence in Open-Access (Free of Charge) international arenas;
- Compensate for fragile and weak areas within CIUHCT, such as History of Medicine and Life Sciences by further exploring international networking;
- Enhance ability to cater for international students, including those from Communities of Portuguese Speaking Countries;
- Extend internationalization and networking to Communities of Portuguese Speaking Countries thus reaching out to South-America, Africa and Asia;
- Pro-active strategies to cater for EU Funding (Marie Curie applications for individual grants and PhD programs; Twinning);
- Re-enforcing strategies to get PD FCT approved;
- Explore ties with private entrepreneurs;
- Enhance CIUHCT's organization of national events as a contribution to raising the average quality level of the Portuguese HSTM community.

## THREATS

- The fact that HSTM is a niche within History entails that journals have low impact factor, not consonant to their real relevance in the area;
- Major cuts in FCT budget for research units and research projects since 2009;
- FCT and EU Scientific policies not sympathetic to Humanities in general and HST in particular;
- H2020 Call clearly oriented towards research with immediate applications;
- Inability to get permanent positions for junior scholars in international calls, both in Portugal and abroad;
- Instability of junior members poses a threat to the survival of HST in Portugal, thus jeopardizing the effort of the 2 last decades;
- Instability of junior members poses a threat to CIUHCT's future, including its leadership and generational reproduction;
- Portuguese entrepreneurs continue to undervalue or de-value the history of their enterprises, therefore narrowing CIUHCT's extension possibilities.

Positive

Negative

# CIUHCT | SWOT Analysis

## STRENGTHS

- Better positioned FCT unit in the Humanities (bibliometric studies), among the top 3 in Iberian Peninsula and top 10 in Europe;
- Strong leadership, simple but efficient governance and accountability bodies;
- Excellent networking, international partners, CIUHCT has become an attractive research center for foreign young scholars;
- Strong emphasis on internationalization (publication of papers, meetings abroad, networking, panels, projects...);
- High mobility and circulation;
- Ability to support FCT Investigators;
- Strong, clear and team building flagships;
- Focus (but not restricted to) on Portuguese topics as a way to enrich both national and international historiography;
- Ability to foster a multi-disciplinary approach by bringing together scholars from different branches of Social Sciences and Humanities;
- Ability to use history and material culture to enlighten contemporary topics by addressing topics such as brain-drain, innovations, centres and peripheries, inclusion and exclusion, scientific and educational policies;
- Excellent MSc and PhD programs recently evaluated by A3ES
- Successful long-term training strategy that encourages PhD students to continue as CIUHCT's post-doctoral and/or junior researchers
- Increasing ability to attract foreign PhD students and Post-Docs;
- Strong emphasis on outreach programs covering different typologies.

# CIUHCT | SWOT Analysis

## WEAKNESSES

- Despite CIUHCT's efforts, HSTM is still considered marginal as far as History is concerned;
- Confinement of main CIUHCT's activities to the academic milieu *vis a vis* the entrepreneurial milieu;
- Unequal balance on research in S, T and M among CIUHCT's research groups and members. In particular medicine and life sciences;
- Comparative HSTM studies are still a minor component of CIUHCT's research;
- A great percentage of senior CIUHCT's members is associated with the University of Lisbon and New University of Lisbon;
- No competitors among FCT research centers;
- Budget mainly centered on FCT;
- Low experience in competing for EU funding and external fundraising;
- Pending evaluation of FCT International Doctoral Program in HP&MC of STM.



# CIUHCT | SWOT Analysis

## OPPORTUNITIES

- Bridging towards other areas of the national community of historians;
- Create incentives for outstanding junior productive members (extra funds for missions). CIUHCT advocates incentives and not penalties;
- Reinforce CIUHCT's presence in Open-Access (Free of Charge) international arenas;
- Compensate for fragile and weak areas within CIUHCT, such as History of Medicine and Life Sciences by further exploring international networking;
- Enhance ability to cater for international students, including those from Communities of Portuguese Speaking Countries;
- Extend internationalization, networking and training to Communities of Portuguese and Spanish Speaking Countries thus reaching out to South-America, Africa and Asia;
- Pro-active strategies to cater for EU Funding (Marie Curie applications for individual grants and PhD programs; Twinning);
- Re-enforcing CIUHCT's training strategy (FCT PhD program);
- Explore ties with private entrepreneurs;
- Enhance CIUHCT's organization of national events as a contribution to raising the average quality level of the Portuguese HSTM community;
- Re-enforce CIUHCT's position in outreach activities and public communication of STM.

# CIUHCT | SWOT Analysis

## THREATS

- The fact that HSTM is a niche within History entails that journals have low impact factor, not consonant to their real relevance in the area (negative impact on bibliometric studies);
- Major cuts in FCT budget for research units and research projects since 2009;
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- Inability to get permanent positions for junior scholars in international calls, both in Portugal and abroad;
- Instability of junior members poses a threat to the survival of HSTM in Portugal, thus jeopardizing the effort of the 2 last decades;
- Instability of junior members poses a threat to CIUHCT's future, including its leadership and generational reproduction;
- Portuguese entrepreneurs continue to undervalue or de-value the history of their enterprises, therefore narrowing CIUHCT's extension possibilities.



# Questions raised by the Evaluation Panel (Consensus Report)

1. Please see *Swot Analysis*.

2. *How does the Unit intend to organize collaboration between its research groups and within each research group?*

Within – through common research, workshops.


Between – Flagships, HoST, Journal Club, and international activities (organization of conferences etc).

3. *What part does self-evaluation of its progress and achievements play in its plans for the next funding period?*

Scientific Council secures self evaluation on a regular basis, engaging all members of the unit. Detailed Annual Reports are issued and discussed by all members.

4. *Does it have plans to intensify doctoral training, and if yes, how?*

CIUHCT has presently two PhD programs, both evaluated as Excellent by the National Agency. We propose to merge the two programs into one PhD FCT Program, which is currently under evaluation. The proposed FCT PhD program is not just the sum of the two existing programs, as it was able to attract the institutional collaboration of Spanish and Brazilian universities, thus presenting itself as an Iberian-South American program.



# Questions raised by the Evaluation Panel (Consensus Report)

*5. How does it see its relations to other national centres with a related research mission?*

CIUHCT has an active policy of encouragement of a vivid relationship with other national research centres and groups, both in our specific field and in close and broader disciplinary areas, such as History, Philosophy and Sociology. CIUHCT also encourages the participation of its members in interdisciplinary networks, which address contemporary trans-disciplinary cutting edge topics such as environmental policies.

*6. What plans does it have for seeking supplementary research funding outside Portugal?*

CIUHCT is aware of the relevance of securing international EU funding. In this context CIUHCT is already engaged, with several European partners, in funding programs, namely within Horizon 2020 and Marie Curie PhD programs (The Institut für Zeitgeschichte; Munich) and career grants. Additionally, CIUHCT is preparing a new proposal within the European Commission Twinning Program, together with the Max-Planck-Institut für Wissenschaftsgeschichte (Berlin) and the Centre de Recherche en Histoire de l'Innovation (Sorbonne).



# Research Group 1. Instruments and Practices, Visual and Material Cultures

## Keywords:

Instruments and Collections in STM; Material and Visual STM Cultures; Cosmography and cartographic knowledge; Iberian science and early modern STM

## Goals:

To provide a high level, innovative and transdisciplinary approach to the construction of STM knowledge mostly, but not exclusively, restricted to the early modern period.

## Focus:

- Examination and study of the most important objects associated with the concept of Iberian Science (manuscripts, books, instruments, maps, globes, etc.) and the most relevant institutions and sites of knowledge (Royal courts, universities, workshops, arsenals, *Casa de la Contratación*, etc.)
- Inspection of the practices and the close relationship between theoretical knowledge, instrumental techniques and ways of modeling and representing nature.



## Research Group 2. Experts, Institutions and Globalization

### Keywords:

History of STM; STM Expertise; STM Institutions; Globalization / Centre(s) / Periphery(ies)

### Goals:

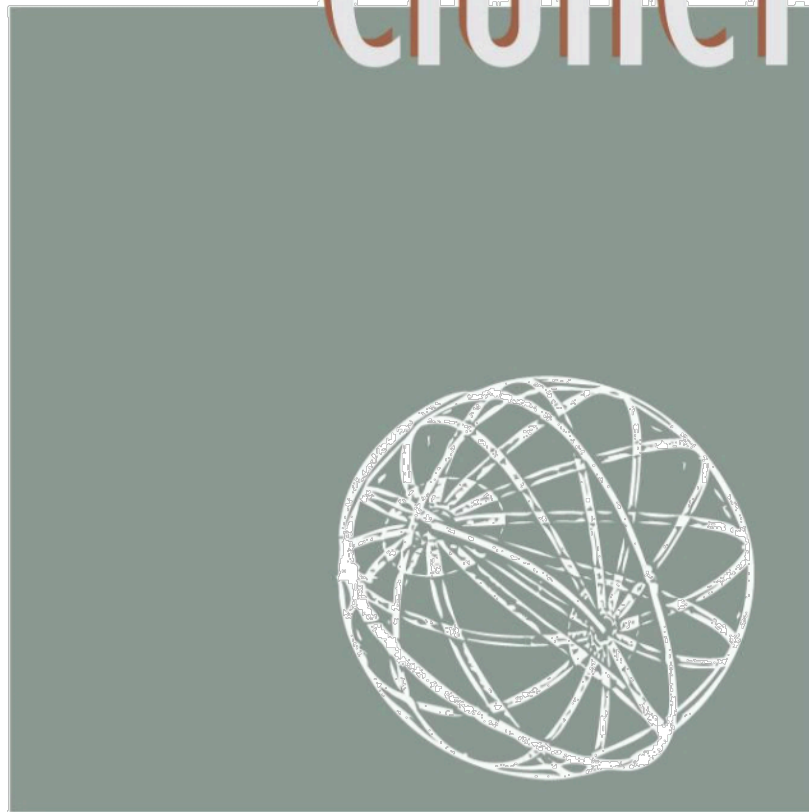
- Bring to the forefront the role of experts and institutions as main actors in a growing global world.
- Analyze the nature of the interactions between STM and political regimes to ascertain how scientific and technological practices are loaded with political values.
- Analyze how policy makers and decisions are shaped by STM expertise.

### Focus:

(i) biographies of scientists, engineers and physicians, as well as the history of a set of institutions of higher education and research; (ii) colonial STM and their relationship with both the "center of the empire" and other empires; (iii) technocratic thinking, STM expertise, progress, authority; (iv) professional elites; (v) popularization of STM; (vi) political agendas and techno-scientific practices.



# CIUHCT



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