

Technology Assessment in Portugal: introduction to the 2nd Winter School on TA

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TA in Portugal - topics

- TA in Portugal in the last decades and recent evolution
- The PhD programme on TA
- Institutionalization of TA in Portugal
- Conclusions

TA in Portugal in the decades of 80 and 90

- This knowledge field had recently very strong developments.
- The seminal work of João Caraça and Fernando Gonçalves entitled “Towards Technology Assessment in Portugal” was published in 1987.
- Later, in the following decade, the specialised activities can be resumed to the involvement in European networks and projects,
 - European Technology Assessment Network (ETAN) within the 4th Framework Program in the area of targeted socio-economical research TSER („Evaluation of science and technology policy options”) and
 - ASTPP European network (Advanced Science and Technology Policy Planning) also with a Portuguese participation (FCT-UNL), that approached specifically the concept and applications of technology assessment (Kuhlmann et al., 1999).

TA in Portugal since 2000

- The beginning of the new millennium brought no further involvement on projects and activities in the field of technology assessment.
- However, was a very rich period in terms of scientific production in the field of science, technology and society studies STSS, ie, on thematics associated to management of science and technology, to social implications of technological innovation, to ethics and philosophy of technology issues.
- That production is relatively disseminated through several Portuguese universities (in particular, UNLisboa, UTLisboa, UPorto, UCoimbra, ISCTE, UÉvora, UMinho) and reveal an important contribute to the studies in this knowledge field.
- Contacts and collaborations with research institutions and universities at the European level are increasing, and leveraging the capacity of internacionalization of the Portuguese scientific production in this field.

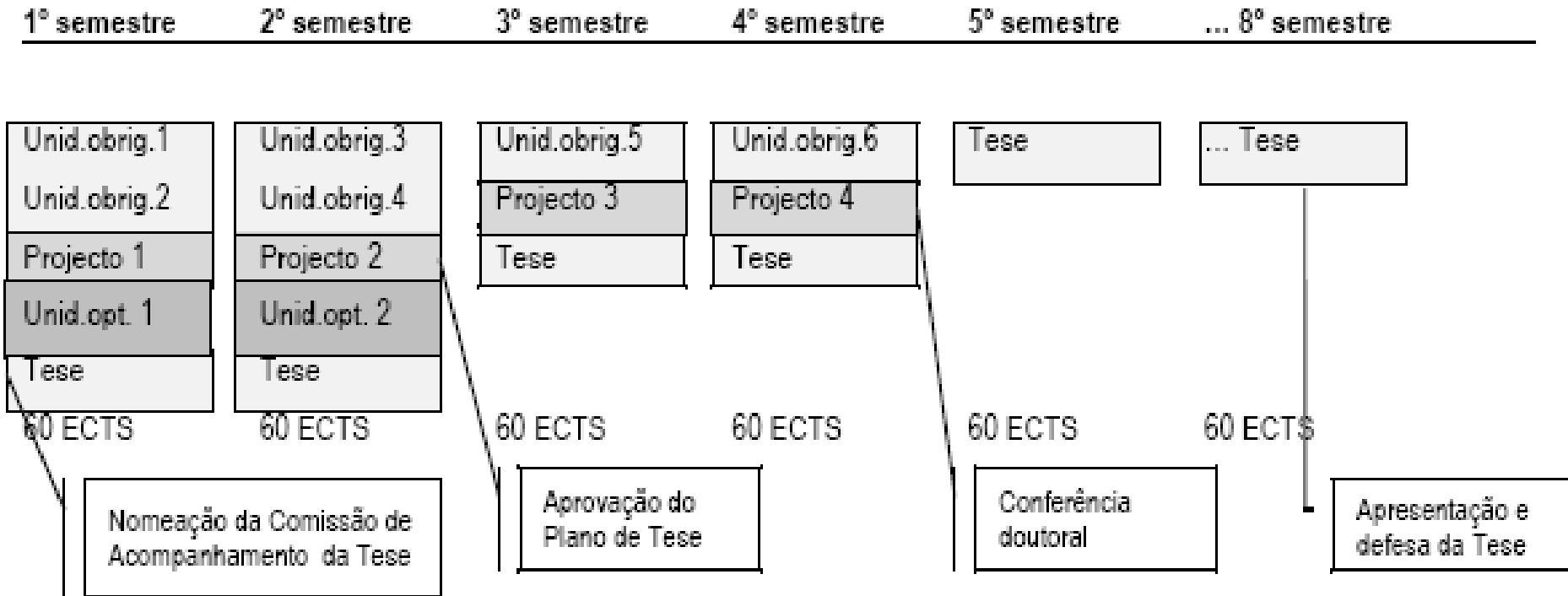
New phase of development of TA

- With the beginning of the PhD programme on TA at FCT-UNL in 2009 it started a critical mass of researchers with specialised training on TA that contributed to the increase of activities and scientific production.
- This PhD program had the involvement and collaboration of Karlsruhe Institute of Technology, Goethe Univ. Frankfurt and Univ. Duisburg-Essen (Germany), Univ. Twente (Netherlands), among others.
- In 2010 takes place the launch of the Grupo de Estudos em Avaliação de Tecnologia (GrEAT).
- 2011 began with the participation in the European project PACITA.

Recent evolution of TA in Portugal



The PhD programme



1st year

Curricular units	Scientific area	Duration
From analogical to digital: paths of modern technology	HFCT	Semester
Interactive methods of participation and decision	CE	Semester
Project I	AT	Semester
Economy and innovation management	EG	Semester
Models of decision support	CE	Semester
Project II	AT	Semester
Thesis	AT	Annual
Option	...	Semester

2nd year

Curricular units	Scientific areas	Duration
(1)	(2)	(3)
Methods of foresight analysis	AT	Semestre
Project III	AT	Semestre
Evaluation in science & technology	AT	Semestre
Project IV	AT	Semestre
Thesis	AT	Annual

Scientific areas (credits)

Scientific area	acronym	Credits	
		Compulsory	Optional
Technology Assessment	AT	204	
Economics and Management Sciences	EG	6	
Engineering sciences	CE	12	12
History and Philosophy of Science and Technology	HFCT	6	
Free option	OL	6	
Total		228	12 (1)

Thesis under preparation

- **Nuno Boavida** - Decision making processes based on innovation indicators
- **Maria João Maia** - Technology Governance in Radiology: The example of Magnetic Resonance Imaging
- **Susana Martins Moretto** - Rail Industry Supply Chain Technology Assessment
- **Jorge Moura** – TA in the Brain Image Quality through Magnetic Resonance
- **Isabel Marques Rosa** – Electroencefalografic Assessment of Children with Auditive Deficits with and without Prothesis
- **Ana Clara Cândido** – Diffusion Process and Development of Cloud Computing Technology
- **Gabriel T. Velloso** - Bridging present and future of Brain-Computer Interfaces: An Assessment of Impact

Institucionalization of TA in Portugal

- The Portuguese path to institutionalize TA shows that the mechanisms through governmental level failed.
- There was never possible to activate mechanisms of TA in spite of the attributions to several organisms created for that, as the several Observatories and Offices of the Ministry of Science and Technology (OCT, OCES and GPEARl) or the several National Boards for Science and Technology that really were never active.
- Public controversies around technological issues (co-incineration, high speed railways) the public discussion fora were not considered legitimate.
- A public organism as the High-Speed Railway Network (RAVE) had around 1M€ for 40 studies but they did not contribute to the technical awareness. The final decisions did not considered the studies results.

The Portuguese Studies Group on TA (Grupo de Estudos em Avaliação de Tecnologia)

- In 2010 was founded the Grupo de Estudos em Avaliação de Tecnologia (GrEAT) as a form to start a process of TA institutionalization in Portugal. It grouped most people interested in the thematic, either researchers or practitioners.
- Has more than 70 followers at Facebook, and around 40 at the GrEAT webpage.
- In 2011 started the Portuguese participation in the European project PACITA.
- GrEAT recently initiated a process of organization of working groups, corresponding to specialized fields as, health TA, mobility and transports, foresight and support to the policy decision.

A growing network

- The starting activities of the scientific reading club *Reading Labs* and the launch of GrEAT enabled the development of further nodes of the Portuguese TA network.
- Around these activities was possible to maintain a presence in several scientific networks, as
 - Mendeley.org;
 - ReserchGate.net;
 - Academia.org;
 - ShapingTomorrow.com and
 - A page on TA in Portuguese language at pt.Wikipedia.org;
 - Institucional pages developed at Wordpress.com:
 - Facebook.com
 - LinkedIn.com (under preparation).

Conclusions

- The recent development of TA in Portugal has a multi-disciplinary source (economics, sociology, political science, ethics, health sciences, computer sciences, nanotechnology, automation).
- A PhD programme is structuring a group of researchers
- O futuro das actividades de AT deverão ocorrer de uma forma cientificamente independente, sistemática e financeiramente estruturada, de forma a evitar a dependência do governo ou de grupos de pressão que actuam casuisticamente e de forma nem sempre clara na sociedade portuguesa.
- A institucionalização da AT poderá dar relevo à necessidade de uma orientação política consensual para o sistema científico, tecnológico e de inovação nacional, que possa ser base de conhecimento para desenvolvimento do próprio país.

Ligações e contactos

- GrEAT
 - <http://avaliacaotecnologia.wordpress.com>
- Programa de doutoramento em AT
 - http://iet.fct.unl.pt/index.php?option=com_content&task=view&id=232&Itemid=271
- ResearchGate
 - [http://www.researchgate.net/group/Grupo de Estudos sobre Avaliacao de Tecnologia GrEAT Portugal/](http://www.researchgate.net/group/Grupo_de_Estudos_sobre_Avaliacao_de_Tecnologia_GrEAT_Portugal/)
 - [http://www.researchgate.net/topic/Technology Assessment/](http://www.researchgate.net/topic/Technology_Assessment/)
- Facebook
 - <https://www.facebook.com/pages/GrEAT-Grupo-de-Estudos-de-Avaliação-de-Tecnologia/143585172365702>
 - <https://www.facebook.com/EPTA.Network>
 - <https://www.facebook.com/pages/Reading-Labs-of-Technology-Assessment/196460653715166>
 - <https://www.facebook.com/groups/phdintechologyassessment/?ref=ts>