contribua para uma visão holística e inclusiva do desenvolvimento social. Por outro lado, isto não deve desresponsabilizar o Estado do seu papel de acompanhamento das escolas para evitar que estas fiquem remetidas a comunidades mais carenciadas ou menos sensibilizadas para o projeto educativo, assegurando desse modo a igualdade de oportunidades de todos os indivíduos no acesso e no uso dos bens educativos.

Teresa Sá Marques, Hélder Santos, Muriela Pádua, Paula Ribeiro e Diogo Ribeiro – ***Translational research: the R&D network of clinical trials anchored in hospitals***

This paper investigates whether hospitals play a key role in translational research in the networks of geography of innovation. Translational research has been one successful strategy to bring forth innovation (Choi et al, 2018), in the context of declining rates of drug productivity (Pammolli et al, 2011), as it relies on linking basic and applied knowledge to promote discovery, one of the highest value added segment of the pharmaceutical industry (Clark et al, 2011). According to the translational science literature, hospitals play an essential role in the health innovation ecosystem networks (Zerhouni, 2005), (Cripe, Thomson, Boat, & Williams, 2005), (Estabrooks, Thompson, Lovely, & Hofmeyer, 2006), (Kerner, 2006) (Thune & Mina, 2016). They are part of two-way networks from research bench to bedside and from bedside to bench (Lenfant, 2003) (Martin, Brown, & Kraft, 2008) (Fort, Herr, Shaw, Gutzman, & Starren, 2017), given that they play an important part in the innovation process, sometimes supporting it, as they can shorten distance to innovation, and sometimes causing it because they anticipate new problems.

This inclusive approach to the role of hospitals emphasises their contribution to creating multidimensional proximity, reducing the risk of being lost in translation (Lenfant, 2003) (Mankoff, Brander, Ferrone, & Marincola, 2004). In a cognitive dimension, they close the gap between biosciences, medicine, clinical investigation (Martin, Brown, & Kraft, 2008) (Lander & Atkinson-Grosjean, 2011), and other scientific fields such as statistics, data management and social sciences (Kon, 2008). The ensuing related cognitive variety allows the cross-sector fertilisation of knowledge. In a social dimension, this means bringing together different epistemic cultures, in a collaborative effort between scientists from different laboratories, physicians from different specialties and contexts of applications, and require the involvement of patients and people in the business sphere (Kon, 2008) (Lander & Atkinson-Grosjean, 2011). In the organisational and institutional dimension, they foster the closing of the gap between different organisations that belong to different institutional spheres of responsibility, like the triple (Leydesdorff, 2005) (Etzkowitz, 2008) and quadruple helix networks (Leydesdorff, 2012) (Carayannis & Campbell, 2012), or the open innovation model (Chersbrough, 2006). This implies an extra collaborative effort involving a number of organisations – health care, university research, clinical research, corporate, public agencies,

professional and patient associations (Schwartz & Vilquin, 2003) (Lenfant, 2003) (Consoli & Mina, 2009) – to allow "translating the science from the Petri dish to what people do in the privacy of their homes and back again" (Kon, 2008, p. 60).

In Portugal, health innovation research has addressed mainly entrepreneurship and capacity building of start-ups and spin-offs dedicated to biotechnology (Fontes & Novais, 1998; Fontes & Coombs, 2001; Fontes, 2001; Fontes, 2005; Fontes, 2005) (Fontes, 2007) (Fontes, Sousa, & Videira, 2009), of the Biocant technopole (Vale & Carvalho, 2012), of the Health Cluster Portugal (Santos, Cavaleiro, & Marques, 2010; Santos & Marques, 2012; Ramos, Roseira, Brito, Henneberg, & Naudé, 2013), of the comparison between health innovation networks and those of other high technology areas (Salavisa, Sousa, & Fontes, 2012) and of the geography of multi-sector networks of innovation (Santos & Marques, 2013; Marques & Santos, 2013; Marques, Santos, & Ribeiro, 2016; Marques, Santos, & Ribeiro, 2015). However, the specific role of the actors in the institutional sphere of hospitals remains underexplored.

What we propose is a dynamic and comparative reflection on the territorialisation of the health scientific and innovation system in Portuguese hospitals (1996-2018). Our research is centered on two research questions (RQ) and sub-questions:

(RQ1) Is there a scientific and innovation system engaging the Portuguese hospitals?

- Who are the organisational actors that form that system?
- To which institutional spheres do they belong?
- What is their geographical location?
- On what primordial knowledge base is it rooted?
- What is the innovation target they pursue?
- How did it develop over time?

To answers these questions, we collect information on clinical trials issued by Infarmed and build a database on related networks (they include, universities, hospitals, research centres, companies). The information collected has been treated statistically and with methods of content analysis.

(RQ2) What networks result from these scientific and innovation systems involving Portuguese hospitals?

- Which cognitive proximity networks are there?
- Which organisational proximity networks are there?
- Which institutional proximity networks are there?
- Which geographical proximity networks are there?
- How did it develop over time?

We use the relational data extracted from the indirect source mentioned before to apply the methodology of social network analysis. For the specific case of exploring the geographical networks, we cross-referenced the analysis of social networks with mapping representation methods.

By mapping the evolution of (Portuguese) hospitals translational role in these networks, we contribute to highlight the differences and similarities between networks (composition, structure and multidimensional proximity) thus clarifying the role of hospitals.

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Sábado, 1 de fevereiro, 9h00-10h30, Sessões paralelas III

Sessão 3.1 (Sala EC 137)
História da Economia Portuguesa

Aurora Teixeira e Alexandra Silvano – ***The Portuguese economic growth over the last two hundred years (1827-2017): the role of human capital, trade openness and structural change***

Economic growth has become central within the study of macroeconomics (Pereira and Lains, 2012; Teixeira and Queirós, 2016). Economists have realized that long-run growth is as important as the short-term fluctuations (Barro, 1996; Acemoglu and Autor, 2012; Mendes, Nunes and Sequeira, 2012). The perspective of long-run economic growth involves the understanding of its sources and causes and the prediction of which policies government should implement to foster long-run growth (Bergheim, 2008). By adopting a long-term