

Report on the research activity of Cláudia Nunes in NTNU – 13th-22th April

Thanks to the generous support of the STSM, I was able to spend some days in NTNU – Trondheim, in Norway, to work with some of my co-authors: Dr. Verena Hagspiel and Prof. Stein-Erik Fleten, from NTNU, and Prof. Peter Kort and Dr. Kuno Huisman, from Tilburg University (Netherlands). Rita Pimentel, a PhD student working under my supervision, was also funded by STSM, and thus were able to participate in this research visit.

During my stay I was able to accomplish all the goals set for this research visit, that I describe briefly:

- 1) Discussion on the paper submitted on “Switching from Oil to Gas Production - Decisions in a Field’s Tail”: this is a paper that is presently submitted, and whose co-authors are Kristian Store, Stein-Erik Fleten, Verena Hagspiel, and myself. Currently I’m supervising a master student in Lisbon who is working on the extension of the model considered in the above work. She has already derived results, and during my stay I was able to explain to some of the co-authors the results, the problems encountered so far and discuss about future work. We are waiting for a reply about the submitted version, and depending of the reply, we will either start a new paper or include in this submitted version the new extension and results.
- 2) We have finalized the accepted paper intitled “How to escape a declining market: capacity investment or exit”, whose co-authors are Verena Hagspiel, Kuno Huisman, Peter Kort and myself. This paper was accepted to be published in EJOR (European Journal of Operational Research), and during our stay in NTNU we finalized the proof-reading of the paper. The final version is from 20th April 2016.
- 3) We have discussed opportunities for new project applications. Unfortunately neither in Portugal or in the Netherlands there are presently open calls for funded projects, but in Norway there will be soon two calls. We have discussed a way to implement a new research agenda.
- 4) We have started two papers, having both as co-authors Verena Hagspiel, Kuno Huisman, Peter Kort, Cláudia Nunes and Rita Pimentel. In the first paper we consider the problem of a firm operating in a declining market, and we study the importance of innovation in future profits, including time-dependence and competition. In the second paper we extend Huisman (2001) book, considering that a firm can adopt at any time a technology, that evolves with time according to a jump-process driven by a Poisson process, and at the time the firm adopts, it can make products of a given generation, which will also be the starting value for a diffusion process. Additionally, we include in our model capacity optimization.

The stay in NTNU was very fruitful, and the fact that we could all meet and work together for a longer period really boosted our research plan. I’m very thankful to the STSM.

