**Journal of the Royal Statistical Society: Series C (Applied Statistics)**

**Illustration code for**

**Multi-dimensional penalized hazard model with continuous covariates: applications for studying trends and social inequalities in cancer survival**

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The provided code is composed of two main code files :

* The file entitled "0000\_Simulation\_code.R" details all the necessary steps to fit the models used in the simulation study.

In order to use it you need to change the « Dir » variable at the beginning, choose a scenario and a sample size and download the corresponding files starting by « ListDataSimulation » and « DataDesign » from : <https://zenodo.org/record/3268769#.XR4ird9l_ct>.

We also added the code for the rstpm2 model (as a commentary) if you want to reproduce the results of the Supplementary Material C.2.

* The file "0000\_Compar\_packages.R" contains code used in the Supplementary Material C.1 (only for sample size = 2,000) to compare survPen with existing approaches. For sample size = 20,000 you must use the following dataset :

« datCancer20000 <- do.call("rbind", ListDataSimulation.MI2 [1:10]) »

where ListDataSimulation.MI2 is the RData of simulated datasets for Cervix scenario and sample size 2000.

We hope this code will be a good complementary presentation of our work.

Sincerely,

The authors