# Introduction

- This is the source code to generate the results (Figures 3, 4, 5 and Supplemental table 5, 9) in manuscript titled “DeCoST: A New Approach in Drug Repurposing from Control System Theory”. The authors hold the copyright of this source code.

- The source code is freely available to use and modify. For any modification, please highlight changes in the publication.

# Description

- Each folder contains the data set and source code needed to generate the results of Breast Cancer ER+, Breast Cancer ER- and Bladder Cancer case-studies. In each folder, then data set are in 4 files:

+ GeneInfo.xlsx: contains the gene name and gene expression involved in the model.

+ GeneInteraction.xlsx: contains the gene-gene interactions (from disease-specific pathway if available), which are used to construct the mathematical models in the manuscript.

+ DrugInfo.xlsx: contains the drug name and category (D1, D2 and D3) of every drug in each case-study

+ DrugGeneInteraction.xlsx: contains the drug-target information

- The source code (file DrawResult.m) is written in Matlab. The system requirements for running the source code are: Matlab 2016 (or later) and Microsoft Office 365 (or later – to read Excel file).