**BoHyM Boolean-Hybrid-Modular Model**

The goal of this software package is to provide a tool and method for simulating *cytoskeleton regulatory networks*. Using this simulator, biologists and bioinformaticians can specify their system in a simple textual language then explore various dynamic behaviors of cytoskeleton dynamics.

**Installation instructions**

We built the code as an extension of  [BooleanNet](https://github.com/ialbert/booleannet), you will replace some of the files in the BooleanNet package as provided in GitHUB.

The code requires Python 3. The simplest installation works through the [conda](https://docs.conda.io/en/latest/miniconda.html) installer that can maintain different versions of Python on the same machine.

The first step is to install [conda](https://docs.conda.io/en/latest/miniconda.html) if you do not already have it. Once Conda is installed, from a command line do the following:

1. **Create the python 3 environment** conda create --name py3 python=3.9
2. **Activate the environment** conda activate py3
3. **Install matplotlib** conda install matplotlib
4. **Install pandas** conda install pandas
5. **Install Booleannet** conda install -c colomoto booleannet

# Replacing boolean2 files with new extended version

Locate the boolean2 in the site-packages of conda library, and replace the files in the boolean2 packages with the files in github-BoHyM boolean2 file.

# Initial States

Initial states are assigned by initial states modules of the example

#Running main module

You can run the BoHyM model with either toy examples or a cytoskeleton signaling network under the module named with *main\_* from the command line in the py3 environment.

**Publication**

**Predicting phenotype to mechanotype relationships in cells based on intra-cellular signaling network** Esra T. Karabay, Amy Turnlund, Jessica Grear, Stephanie I. Fraley, and Parag Katira\*

**Credits**

The BooleanNet has been designed and implemented by *[* [*http://www.personal.psu.edu/iua1/*](http://www.personal.psu.edu/iua1/) *István Albert].*