Mathias Blicher Bjerregård - DTU Orbit (01/01/2018)

Mathias Blicher Bjerregård

Organisations

PhD Student, Department of Applied Mathematics and Computer Science
17/08/2017 → present
matbb@dtu.dk
VIP

Dynamical Systems
20/08/2017 → present
VIP

Department of Biotechnology and Biomedicine
19/02/2014 → 07/04/2016 Former
matbb@bio.dtu.dk
VIP

Student Assistant, Department of Biotechnology and Biomedicine
10/03/2016 → 02/04/2017 Former
matbb@dtu.dk
VIP

Publications:

Dynamic Rearrangement of Cell States Detected by Systematic Screening of Sequential Anticancer Treatments
Signaling networks are nonlinear and complex, involving a large ensemble of dynamic interaction states that fluctuate in space and time. However, therapeutic strategies, such as combination chemotherapy, rarely consider the timing of drug perturbations. If we are to advance drug discovery for complex diseases, it will be essential to develop methods capable of identifying dynamic cellular responses to clinically relevant perturbations. Here, we present a Bayesian dose-response framework and the screening of an oncological drug matrix, comprising 10,000 drug combinations in melanoma and pancreatic cancer cell lines, from which we predict sequentially effective drug combinations. Approximately 23% of the tested combinations showed high-confidence sequential effects (either synergistic or antagonistic), demonstrating that cellular perturbations of many drug combinations have temporal aspects, which are currently both underutilized and poorly understood.

General information
State: Published
Organisations: Department of Applied Mathematics and Computer Science, Dynamical Systems, Department of Biotechnology and Biomedicine, Center for Biological Sequence Analysis, Novo Nordisk Foundation Center for Biosustainability, Bacterial Synthetic Biology, University of Copenhagen, University of New South Wales
Authors: Koplev, S. (Ekstern), Longden, J. (Ekstern), Ferkinghoff-Borg, J. (Ekstern), Blicher Bjerregård, M. (Intern), Cox, T. R. (Ekstern), Erler, J. T. (Ekstern), Pedersen, J. T. (Ekstern), Voellmy, F. (Intern), Sommer, M. O. A. (Intern), Linding, R. (Ekstern)
Pages: 2784-2791
Publication date: 2017
Main Research Area: Technical/natural sciences

Publication information
Journal: Cell Reports
Volume: 20
Issue number: 12
ISSN (Print): 2211-1247
Ratings:
BFI (2018): BFI-level 2
BFI (2017): BFI-level 2
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 2
Scopus rating (2016): CiteScore 8.4 SJR 8.012 SNIP 1.749
BFI (2015): BFI-level 2
Scopus rating (2015): SJR 8.507 SNIP 1.754 CiteScore 8.15
Projects:

**Intelligent integration of deep urban tunnel systems in energy systems**

Department of Applied Mathematics and Computer Science  
Period: 01/12/2017 → 30/11/2020  
Number of participants: 4  
Phd Student:  
**Bjerregård, Mathias Blicher (Intern)**  
Supervisor:  
**Borup, Morten (Intern)**  
**Niyato, Dusit (Ekstern)**  
Main Supervisor:  
**Christiansen, Lasse Engbo (Intern)**  

**Financing sources**  
Source: Internal funding (public)  
Name of research programme: Institut stipendie (DTU)  
Project: PhD