

Accepted Manuscript

Title: How Monte Carlo heuristics aid to identify the physical processes of drug release kinetics

Author: Paola Lecca

PII: S2215-0161(18)30031-1
DOI: <https://doi.org/10.1016/j.mex.2018.02.004>
Reference: MEX 263



To appear in:

Received date: 1-1-2018
Accepted date: 13-2-2018

Please cite this article as: Lecca, Paola, How Monte Carlo heuristics aid to identify the physical processes of drug release kinetics. *MethodsX* <https://doi.org/10.1016/j.mex.2018.02.004>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

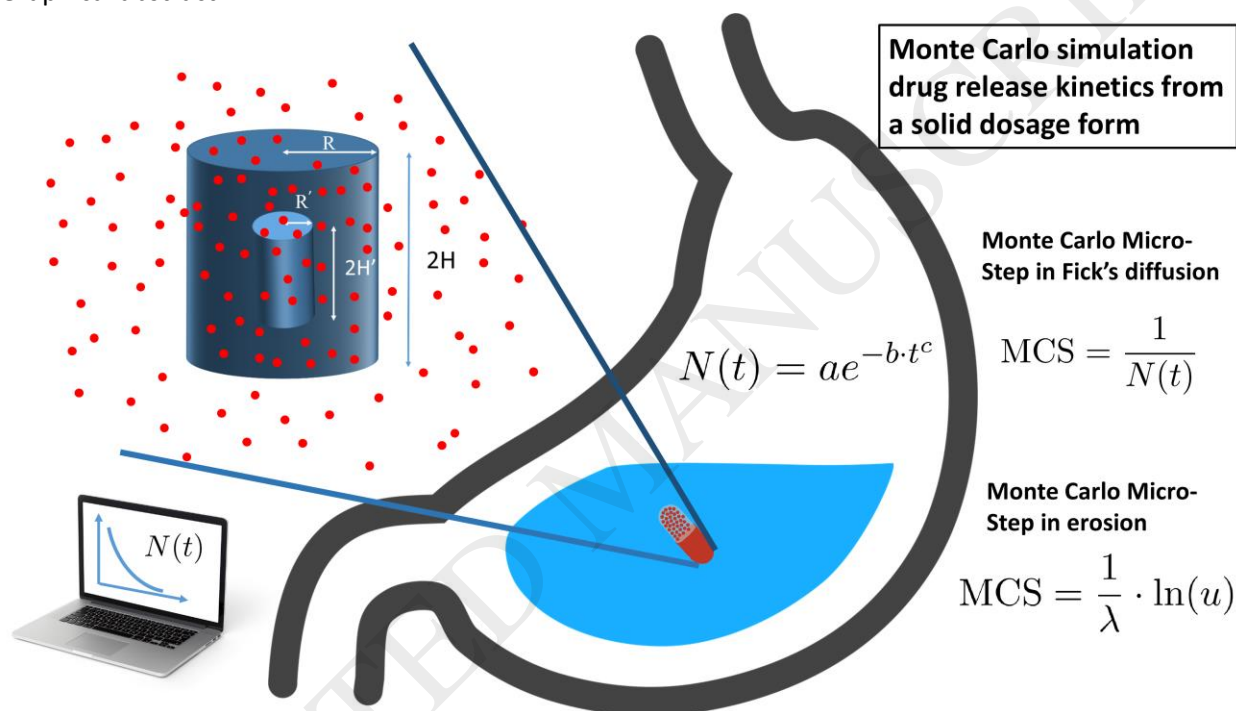
Title: How Monte Carlo heuristics aid to identify the physical processes of drug release kinetics

Authors: Paola Lecca

Affiliations: Department of Mathematics, University of Trento
via Sommarive 14, 38123 Trento, Italy

Contact email: paola.lecca@unitn.it

Graphical abstract



Three bullet points, highlighting the customization of the procedure.

- An efficient heuristics based on Monte Carlo methods for simulating drug release from solid dosage form encodes is presented. It specifies the model of the physical process in a simple but accurate way in the formula of the Monte Carlo Micro Step (MCS) time interval.
- Given the experimentally observed curve of drug release, we point out how Monte Carlo heuristics can be integrated in a evolutionary algorithmic approach to infer the mode of MCS best fitting the observed data, and thus the observed release kinetics.
- The software implementing the method is written in R language, the free most used language in the bioinformaticians community.

Abstract: We implement a Monte Carlo heuristic algorithm to model drug release from a solid dosage form. We show that with Monte Carlo simulations it is possible to identify and explain the causes of the

Download English Version:

<https://daneshyari.com/en/article/8389789>

Download Persian Version:

<https://daneshyari.com/article/8389789>

[Daneshyari.com](https://daneshyari.com)