

Technical University of Denmark



## Pulse exposure - delayed responses of *Daphnia magna*

Baun, Anders; Friis-Nielsen, Joan; Andersen, Tobias H.; Wollenberger, Leah; Kusk, Kresten Ole

*Publication date:*  
2004

*Document Version*  
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

*Citation (APA):*  
Baun, A., Friis-Nielsen, J., Andersen, T. H., Wollenberger, L., & Kusk, K. O. (2004). Pulse exposure - delayed responses of *Daphnia magna*. Poster session presented at SETAC Europe 14th annual meeting, Prague, Czech Republic.

**DTU Library**  
Technical Information Center of Denmark

---

### General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

# Pulse exposure - Delayed responses of *Daphnia magna*



Anders Baun\*, Joan Friis-Nielsen, Tobias H. Andersen,  
Leah Wollenberger and K. Ole Kusk  
Environment & Resources DTU

Technical University of Denmark, Building 115, DK-2800 Kgs. Lyngby, Denmark

\*anb@er.dtu.dk / www.er.dtu.dk

## Introduction

Intermittent discharges of xenobiotic chemicals to the aquatic environment occur frequently e.g. during spraying of pesticides, industrial discharges, and rain events. These pulse exposures lead to short-term high concentrations which may have significant toxic effects on organisms in the receiving waters. However, the effects of this type of exposure is seldom studied. In the present study we propose and evaluate a method for quantification of the effects of pulse exposure (PulseM) using *Daphnia magna* as test organism.

## Materials and methods

In the PulseM test, new-born daphnids are exposed to high concentrations of chemicals/effluent in pulses ranging from 0.5-6 hours. The test organisms are transferred to clean water and their mobility is observed in a post-exposure period of 48 hours. The method was applied to *m*-cresol, 3,5 dichlorophenol, potassium dichromate, the pesticides pirimicarb and dimethoate, and two industrial effluents.

## Test procedure

## Results

## Conclusions

