

## List of publications

Stefan Engblom

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SUBMITTED OR  
UNDER  
PREPARATION

- [S1] A. Goude and S. Engblom. Adaptive fast multipole methods on the GPU. Technical Report 2012-012, Dept of Information Technology, Uppsala University, 2012. *Submitted*. Available at <http://arxiv.org/abs/1205.4611>.
- [S2] S. Engblom. On the stability of stochastic jump kinetics. Technical Report 2012-005, Dept of Information Technology, Uppsala University, 2012. *Submitted*. Available at <http://arxiv.org/abs/1202.3892>.
- [S3] B. Drawert, S. Engblom, and A. Hellander. URDME: a modular framework for stochastic simulation of reaction-transport processes in complex geometries, 2012. *Submitted*. Available at <http://www.cs.ucsb.edu/~andreash/urdme/paper/urdme.pdf>.
- [S4] S. Engblom, M. Do-Quang, G. Amberg, and A-K. Tornberg. On modeling and simulation of surfactants in diffuse interface flow, 2011. *Submitted*. Available at <http://arxiv.org/abs/1106.6233>.

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- [R1] S. Engblom. On well-separated sets and fast multipole methods. *Appl. Numer. Math.*, 61(10):1096–1102, 2011. [doi:10.1016/j.apnum.2011.06.011](https://doi.org/10.1016/j.apnum.2011.06.011).
- [R2] S. Engblom. Parallel in time simulation of multiscale stochastic chemical kinetics. *Multiscale Model. Simul.*, 8(1):46–68, 2009. [doi:10.1137/080733723](https://doi.org/10.1137/080733723).
- [R3] S. Engblom, L. Ferm, A. Hellander, and P. Lötstedt. Simulation of stochastic reaction-diffusion processes on unstructured meshes. *SIAM J. Sci. Comput.*, 31(3):1774–1797, 2009. [doi:10.1137/080721388](https://doi.org/10.1137/080721388).
- [R4] S. Engblom. Spectral approximation of solutions to the chemical master equation. *J. Comput. Appl. Math.*, 229(1):208–221, 2009. [doi:10.1016/j.cam.2008.10.029](https://doi.org/10.1016/j.cam.2008.10.029).
- [R5] S. Engblom. Galerkin spectral method applied to the chemical master equation. *Commun. Comput. Phys.*, 5(5):871–896, 2009.
- [R6] P. Deglaire, S. Engblom, O. Ågren, and H. Bernhoff. Analytical solutions for a single blade in vertical axis turbine motion in two-dimensions. *Eur. J. Mech. B Fluids*, 28(4):506–520, 2009. [doi:10.1016/j.euromechflu.2008.11.004](https://doi.org/10.1016/j.euromechflu.2008.11.004).

- [R7] S. Engblom. Computing the moments of high dimensional solutions of the master equation. *Appl. Math. Comput.*, 180(2):498–515, 2006. doi:10.1016/j.amc.2005.12.032.

#### THESES

- [T1] S. Engblom. *Numerical Solution Methods in Stochastic Chemical Kinetics*. PhD thesis, Uppsala University, 2008.
- [T2] S. Engblom. *Numerical Methods for the Chemical Master Equation*. Licentiate thesis, Uppsala University, 2006. No. 2006-007.
- [T3] S. Engblom. Multigrid preconditioners with applications to incompressible Navier-Stokes equations. Master's thesis, Dept of Information Technology, Uppsala University, 2002.

#### REFEREED PROCEEDINGS

- [P1] S. Engblom. Time-parallel simulation of stochastic chemical kinetics. In T. E. Simos, editor, *Numerical Analysis and Applied Mathematics*, volume 1048 of *AIP conference proceedings*, pages 174–177, 2008. doi:10.1063/1.2990884.

#### REPORTS

*Not published elsewhere.*

- [U1] B. Drawert, S. Engblom, and A. Hellander. URDME v. 1.1: User's manual. Technical Report 2011-003, Dept of Information Technology, Uppsala University, 2011. Available at <http://arxiv.org/abs/0902.2912>.
- [U2] J. Cullhed, S. Engblom, and A. Hellander. The URDME manual version 1.0. Technical Report 2008-022, Dept of Information Technology, Uppsala University, 2008. Available at <http://arxiv.org/abs/0902.2912v1>.
- [U3] S. Engblom. Gaussian quadratures with respect to discrete measures. Technical Report 2006-007, Dept of Information Technology, Uppsala University, 2006. Available at <http://www.it.uu.se/research>.
- [U4] S. Engblom, A. Göran, and C. Adamsson. A compact difference method for turbulent flow in a channel. Technical Report 2000:6, Dept of Information Technology, Uppsala University, 2000.