

Kristian Debrabant  
Associate Professor  
Applied Mathematics  
Department of Mathematics and Computer Science (IMADA)  
SDU eScience Centre  
Postal address:  
Campusvej 55  
5230  
Odense M  
Denmark  
Email: [debrabant@imada.sdu.dk](mailto:debrabant@imada.sdu.dk)  
Web address: [http://www.imada.sdu.dk/~debrabant/index\\_en.php](http://www.imada.sdu.dk/~debrabant/index_en.php)



## Short CV - mainly system generated

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## Professional Experience

- 2011 - present Associate Professor at the Department of Mathematics and Computer Science (IMADA) at University of Southern Denmark
- 2011 Interim professor for Applied Mathematics and Computer Science of the School of Business Informatics and Mathematics at University of Mannheim, Germany
- 2010 - 2011 Postdoctoral research fellow at the Scientific Computing Research Group of the Department of Computer Science at Katholieke Universiteit Leuven, Belgium
- 2002 - 2011 Research associate at the Department of Mathematics at Technische Universität Darmstadt, Research Group Numerical Analysis and Scientific Computing (since March 2010 on academic leave)

## Education

- 2010 Habilitation by the Department of Mathematics of TU Darmstadt
- 15.10.2004 Award of a doctorate Dr. rer. nat.
- 2002 - 2004 PhD study in the research group Numerical Analysis and Scientific Computing of the Technische Universität Darmstadt, Germany
- 2000 - 2002 PhD study at the Institute for Numerical Mathematics of the Martin-Luther-University of Halle-Wittenberg, Germany
- 2001 Diploma in Physics
- 2000 Diploma in Mathematics
- 1999 Vordiplom (Bachelor) in computer sciences
- 1994 - 2001 Study at the Martin-Luther-University of Halle-Wittenberg, Germany

## Publications (if you would like to download a publication, please see [http://www.imada.sdu.dk/~debrabant/publik\\_en.php](http://www.imada.sdu.dk/~debrabant/publik_en.php))

**Exponential Euler method for stiff stochastic differential equations with additive fractional Brownian noise**  
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**Weak convergence of balanced stochastic Runge-Kutta methods for stochastic differential equations**  
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**Lawson schemes for highly oscillatory stochastic differential equations and conservation of invariants**  
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**The Cost-Effectiveness of a COVID-19 Vaccine in a Danish Context**  
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**Backward Differentiation Formula finite difference schemes for diffusion equations with an obstacle term**  
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**Runge–Kutta Lawson schemes for stochastic differential equations**  
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**High order numerical integrators for single integrand Stratonovich SDEs**  
Cohen, D., Debrabant, K. & Rößler, A., Dec 2020, In: Applied Numerical Mathematics. 158, p. 264-270

**Study of micro-macro acceleration schemes for linear slow-fast stochastic differential equations with additive noise**  
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**Weak antithetic MLMC estimation of SDEs with the Milstein scheme for low-dimensional Wiener processes**  
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**Parametric model reduction via interpolating orthonormal bases**  
Zimmermann, R. & Debrabant, K., 5. Jan 2019, *Numerical Mathematics and Advanced Applications: ENUMATH 2017*. Radu, F. A., Kumar, K., Berre, I., Nordbotten, J. M. & Pop, I. S. (eds.). Springer, p. 683-691 (Lecture Notes in Computational Science and Engineering, Vol. 126).

**Stochastic B-series and order conditions for exponential integrators**  
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**Analysis of multilevel Monte Carlo path simulation using the Milstein discretisation**  
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**Carbon oxidation and bioirrigation in sediments along a Skagerrak–Kattegat–Belt Sea depth transect**  
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**General order conditions for stochastic partitioned Runge-Kutta methods**  
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**Robust optimization of robotic pick and place operations for deformable objects through simulation**  
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**On global error estimation and control of finite difference solutions for parabolic equations**  
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**Semi-Lagrangian schemes for linear and fully non-linear diffusion equations**  
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