

David J. Silvester

Publications—Books

- B2 David F. Griffiths, John W. Dold, David J. Silvester. *Essential Partial Differential Equations*, Springer, Heidelberg, 2015. xi+368 pp. ISBN: 978-3-319-22568-5.
- B1 Howard Elman, David Silvester, Andy Wathen. *Finite Elements and Fast Iterative Solvers: with applications in incompressible fluid dynamics*, Second Edition, Oxford University Press, Oxford, 2014. xiv+479 pp. ISBN: 978-0-19-967879-2.

Publications—Invited

- I6 Silvester, D. Preconditioning, in *Encyclopedia of Applied and Computational Mathematics*, Engquist B. (Ed), Springer, Berlin, pp.1170–1173, 2015.
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- I5 Powell, C and Silvester, D. Black-box preconditioning for mixed formulation of self-adjoint elliptic PDEs, *Challenges in Scientific Computing — CISC 2002*. Bänsch E. (Ed), Springer Lecture Notes in Computational Science and Engineering **35**, pp. 268–285, 2003.
- I4 Wathen, A., Fischer, B. and Silvester, D. The convergence of iterative solution methods for symmetric and indefinite systems. *Numerical Analysis 1997*, Griffiths D., Higham D. and Watson G. (Eds), Longman Scientific, pp. 230–240, 1998.
- I3 Elman, H., Silvester, D. and Wathen. A. Iterative methods for problems in computational fluid dynamics. *Iterative Methods in Scientific Computing*, Chan R., Chan T. and Golub G. (Eds), Springer-Verlag, pp. 271–327, 1997.
- I2 Golub, G., Silvester, D. and Wathen. A. Diagonal dominance and positive definiteness of upwind approximations for advection diffusion problems. *Numerical Analysis: A.R. Mitchell 75th Birthday Volume*, Griffiths D. and Watson G. (Eds), World Scientific, pp. 125–131, 1996.
- I1 Silvester, D. and Wathen. A. Fast & robust solvers for time-discretised incompressible Navier–Stokes equations. *Numerical Analysis 1995*, Griffiths D. and Watson G. (Eds), Longman Scientific, pp. 154–168, 1996.

Publications—Refereed Journal Papers

- P52 Pranjal and Silvester, D. Balanced iterative solvers for linear nonsymmetric systems and nonlinear systems with PDE origins: efficient black-box stopping criteria, *J. Scientific Computing*, 2019. <https://doi.org/10.1007/s10915-019-01018-w>
- P51 Khan, A., Powell, C. and Silvester, D. Robust a posteriori error estimators for mixed approximation of nearly incompressible elasticity, *International Journal for Numerical Methods in Engineering*, 1–20, 2019. <https://doi.org/10.1002/nme.6040>
- P50 Khan, A., Powell, C. and Silvester, D. Robust preconditioning for stochastic Galerkin formulations of parameter-dependent nearly incompressible linear elasticity equations, *SIAM J. Scientific Computing*, **41**, A402–A421, 2019. <https://doi.org/10.1137/18M117385X>
- P49 Elman, H and Silvester, D. Collocation methods for exploring perturbations in linear stability analysis, *SIAM J. Scientific Computing*, **40**, A2667–A2693, 2018.
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- P48 Pearson, J., Pestana, J. and Silvester, D. Refined saddle-point preconditioners for discretized Stokes problems, *Numerische Mathematik*, **138**, 331–363, 2018. <https://doi.org/10.1007/s00211-017-0908-4>
- P47 Powell, C., Silvester, D. and Simoncini, V. An efficient reduced basis solver for stochastic Galerkin matrix equations, *SIAM J. Scientific Computing*, **39**, A141–A163, 2017. <https://doi.org/10.1137/15M1032399>
- P46 Bespalov, A. and Silvester, D. Efficient adaptive stochastic Galerkin methods for parametric operator equations, *SIAM J. Scientific Computing*, **38**, A2118–A2140, 2016. <https://doi.org/10.1137/15M1027048>
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- P39 Liao, Q. and Silvester, D. Robust stabilized Stokes approximation methods for highly stretched grids, *IMA J. Numerical Analysis*, **33**, 413–431, 2013. <https://doi.org/10.1093/imanum/drs012>
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- P3 Silvester, D. Optimising finite element matrix calculations using the general technique of element vectorisation, *Parallel Computing* **6**, pp. 157–164, 1988.
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Publications—Conference Proceedings and Book Chapters

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Publications—Book Reviews

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