

# Curriculum vitae

Anders Logg

Full Professor of Computational Mathematics, Chalmers University of Technology

## Bio

Date of birth: January 7, 1976  
Place of birth: Mölndal, Sweden  
Citizenship: Swedish

## Present Positions

(2013–) **Full Professor of Computational Mathematics**  
Chalmers University of Technology, Sweden.  
(2013–) **Scientific Advisor**, Fraunhofer-Chalmers Centre, Sweden.

## Previous Positions

(2013–2017) **Scientific Advisor**, Simula Research Laboratory, Norway.  
(2011–2013) **Senior Research Scientist**, Simula Research Laboratory, Norway.  
(2006–2013) **Associate Professor**, University of Oslo, Norway.  
(2006–2011) **Research Scientist**, Simula Research Laboratory, Norway.  
(2004–2006) **Research Assistant Professor**, TTI Chicago, USA.

## Higher Education Degrees

(2010) **Docent in Applied Mathematics**  
Chalmers University of Technology, Sweden.  
(2004) **PhD in Applied Mathematics**  
Chalmers University of Technology. Advisors: Prof. C. Johnson, Prof. K. Eriksson.  
(2001) **Lic.Eng. in Applied Mathematics**  
Chalmers University of Technology. Advisor: Prof. Claes Johnson.  
(1999) **MSc in Engineering Physics**  
Chalmers University of Technology. Advisor: Prof. Claes Johnson.

## Supervision (PhD Students and Postdocs)

(2020–) Vasilis Naserentin (PhD, main advisor).  
(2016–2019) Robert Forslund (Lic, co-advisor).  
(2015–2021) Carl Lundholm (PhD, main advisor).  
(2014–) Niklas Ericsson (PhD, co-advisor).  
(2014–2016) Matteo Molteni (PhD, co-advisor).  
(2014–2017) Frida Svelander (Lic, main advisor).  
(2009–2012) André Massing (PhD, main advisor).  
(2008–2011) Kristian Valen-Sendstad (PhD, co-advisor).  
(2008–2011) Kristoffer Selim (PhD, main advisor).  
  
(2016–2018) Magne Nordaas (Postdoc).  
(2014–2017) August Johansson (Postdoc).  
(2012–2013) André Massing (Postdoc).  
(2009–2010) Marie E. Rognes (Postdoc).  
(2008–2010) Harish Narayanan (Postdoc).

## Research Grants

- (2020–2025) Digital Twin Cities Centre  
Vinnova (105 MSEK), PI.
- (2018–2020) Sensor Driven Cloud-Based Strategies for Infrastructure Management  
Trafikverket (3.2 MSEK), PI R. Rempling.
- (2017–2019) Computational Mathematical Modeling  
NordForsk / Nordic Council of Ministers (0.6 MSEK), PI.
- (2016–2020) Mathematics for Electron Beam Melting — 3D Printing in Metal  
Swedish Foundation for Strategic Research (2.5 MSEK), PI S. Larsson.
- (2015–2018) Automated Uncertainty Quantification for Numerical Solution of PDE  
NordForsk / Nordic Council of Ministers (4 MSEK), PI M. Rognes.
- (2014–2018) Multimesh Space-Time Finite Element Methods  
Swedish Research Council (3.4 MSEK), PI.
- (2010–2013) Computability and Stability of Dynamical Systems  
Norwegian Ministry of Education and Research, PI.
- (2007–2012) Automation of Error Control with Application to FSI in Biomedicine  
Research Council of Norway (10 MNOK), PI.

## Awards and Prizes

- Chosen for the **Top-100 list** of research entrepreneurs by the Royal Swedish Academy of Engineering Sciences (2019).
- Awarded prize for **best poster session** (Software Productivity and Sustainability) at SIAM CSE (2017).
- Awarded **Gyllene pekpinnen** at Chalmers 2014, 2015, 2016 and 2020, finalist for Chalmers Pedagogical Prize (2014).
- Awarded the **John Ericsson Medal**, given to students with the best grade average ( $4.97/5.0 = 99.4\%$ ) at Chalmers University of Technology, Sweden (1999).
- Finalist for the **ECCOMAS PhD Thesis Award**, nominated by the NoACM (Nordic Association for Computational Mechanics), one of 18 European finalists (2005).

## Professional Activities

- **Director of Digital Twin Cities Centre** (2020–).
- **CEO of startup ReSpace AB** (2018–).
- **Director of Chalmers Area of Advance Building Futures** (2017–2018).
- **Director of Swedish Network for Mathematics in Industry** (2014–).
- **Council member of EMS Applied Mathematics Committee** (2015–2018).
- **Council member of Swedish National Committee for Mathematics** (2015–2017).
- **Head of unit** for Computational Mathematics and Numerical Analysis (2014–2016).
- Leader of Chalmers Excellence Profile Virtual Cities (2014–2018).
- **Co-founder and core developer of FEniCS**, a free/open-source scientific software project, including the packages DOLFIN, FFC, UFC, UFL, and CBC.Solve (<http://fenicsproject.org/>).
- **Group leader** for the *Automated and Distributed Computing* research group at Simula Research Laboratory, Norway (2010–2012).
- **Project leader** for three research projects at Simula Research Laboratory (2007–2013): *Computational Middleware*, *Robust Solvers*, and *Automation of Error Control with Application to Fluid-Structure Interaction in Biomedicine*.
- **International advisory board member** for the Special Research Program (SFB) Taming Complexity in Partial Differential Systems funded by the Austrian Science Fund (2018–2021).

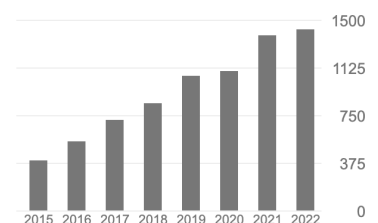
- **Organizer of workshops and conferences:** *FEniCS'05: Automated Computational Mathematical Modeling* (2005), *Finite Element Methods for Fluids and Fluid-Structure Interaction* (2008), *FEniCS'09: Scientific Computing in the New Millennium* (2009), *Finite Element Software Development* at ENUMATH (2009), *Automated Computing* at ICNAAM (2010), *Automated Solution of Differential Equations* at SIAM CSE (2011), *Automation of Computational Modeling by Advanced Software Tools and Techniques* at ECCOMAS (2012), *FEniCS'12: High-Performance PDE Frameworks for Modern Architectures* (2012), *Software in CSE* at SIAM CSE (2013), *Fixed-Grid Methods and Applications to Multi-Physics and Domain Bridging Problems* at SIAM CSE (2013), *26:th Nordic Seminar on Computational Mechanics* (**conference chair**, 2013), *Automation of Computational Modeling by Advanced Software Tools and Techniques* at the 11th. World Congress on Computational Mechanics (2014), *Methods for Cut and Composite Meshes: Theory, Algorithms and Applications* at the 11th. World Congress on Computational Mechanics (2014), **SIAM CSE** (member of organizing committee, 2015), *PDESoft* (member of scientific committee, 2016), *29:th Nordic Seminar on Computational Mechanics* (member of organizing committee, 2016), *ECCOMAS* (chair of Scientific Committee for Scientific Computing, 2022).
- **Invited talks** (selection): *Workshop on Data Structures for Finite Element and Finite Volume Computations* (Freie Universität Berlin, 2008), *Opportunities and Challenges in Computational Geodynamics* (Caltech, 2009), *The 23rd Chemnitz FEM Symposium* (Chemnitz, 2010, keynote speaker), *EuroSciPy 2011 / Python in Physics* (Ecole normale supérieure, 2011), *PDESoft 2012* (Münster 2012, invited speaker), *FEniCS 2015* (London 2015, keynote speaker), *ESCO 2016* (Pilsen 2016, keynote speaker), *FEniCS 2016* (Oslo 2016, keynote speaker), *SmartGeometry 2016* (Gothenburg 2016, keynote speaker), *International Conference on Computational Science and Engineering* (Oslo 2017, keynote speaker).
- **Editor** of Archive of Numerical Software, **guest editor** of SISC special issue on CSE Software and Big Data (2015).
- **Referee** for *SIAM Review*, *SIAM Journal on Scientific Computing*, *SIAM Journal on Numerical Analysis*, *ACM Transactions on Mathematical Software*, *BIT Numerical Mathematics*, *Computer Methods in Applied Mechanics and Engineering*, *Journal of Computational and Applied Mathematics*, *Journal of Computational Physics*, *IMA Journal of Numerical Analysis*, *Nature Computational Science*, *Simulation Modelling Practice and Theory*, *Scientific Programming*, *Bulletin of the Iranian Mathematical Society*.
- **Opponent** and chairman of PhD defense committees in Norway and Sweden.
- Member of the **Programme Council** for the Applied Physics program at Chalmers (2013–).
- Creator of an exhibition of computational mathematics/physics at the Universeum science center.
- Author of several articles on computational mathematics at the Swedish science portal forskning.se, author of several book chapters and articles on popular science.
- Lecturer in several courses at Chalmers University of Technology (2002–2004, 2013–), lecturer in several courses at the University of Oslo (2006-2013), lecturer at the Jyväskylä Summer School (2013), lecturer at the Winter School in Computational Mathematics, Geilo, Norway (2006, 2012).

## Bibliometry (Google Scholar)

Number of publications: 68 (peer-reviewed original works)

Total citations: 9260, h-index: 32, i10-index: 50

	Alla	Sedan 2017
Citat	9260	6561
h-index	32	23
i10-index	50	35



## Articles in International Journals

- [1] A. LOGG. Multi-Adaptive Galerkin Methods for ODEs I. *SIAM J. Sci. Comput.*, vol. 24(6), pp. 1879–1902, 2003.
- [2] A. LOGG. Multi-Adaptive Galerkin Methods for ODEs II: Implementation and Applications. *SIAM J. Sci. Comput.*, vol. 25(4), pp. 1119–1141, 2003.
- [3] K. ERIKSSON, C. JOHNSON AND A. LOGG. Explicit Time-Stepping for Stiff ODEs. *SIAM J. Sci. Comput.*, vol. 25(4), pp. 1142–1157, 2003.
- [4] A. LOGG. Multi-Adaptive Time-Integration. *Applied Numerical Mathematics*, vol. 48(3–4), pp. 339–354, 2004.
- [5] J. JANSSON, C. JOHNSON AND A. LOGG. Computational Modeling of Dynamical Systems. *Mathematical Models and Methods in Applied Sciences*, vol. 15(3), pp. 471–481, 2005.
- [6] R. C. KIRBY, M. G. KNEPLEY, A. LOGG AND L. R. SCOTT. Optimizing the Evaluation of Finite Element Matrices. *SIAM J. Sci. Comput.*, vol. 27(3), pp. 741–758, 2005.
- [7] A. LOGG. Multi-Adaptive Galerkin Methods for ODEs III: A Priori Error Estimates. *SIAM Journal on Numerical Analysis*, vol. 43(6), pp. 2624–2646, 2006.
- [8] R. C. KIRBY AND A. LOGG. A Compiler for Variational Forms. *ACM Transactions on Mathematical Software*, vol. 32(3), pp. 417–444, 2006.
- [9] R. C. KIRBY, A. LOGG, L. R. SCOTT AND A. R. TERREL. Topological Optimization of the Evaluation of Finite Element Matrices. *SIAM J. Sci. Comput.*, vol. 28(1), pp. 224–240, 2006.
- [10] R. C. KIRBY AND A. LOGG. Efficient Compilation of a Class of Variational Forms. *ACM Transactions on Mathematical Software*, vol. 33(3), 2007.
- [11] A. LOGG. Automating the Finite Element Method. *Archives of Computational Methods in Engineering*, vol. 14(2), pp. 93–138, 2007.
- [12] J. JANSSON AND A. LOGG. Algorithms and Data Structures for Multi-Adaptive Time-Stepping. *ACM Trans. Math. Software*, vol. 35(3), pp. 1–24, 2008.
- [13] R. C. KIRBY AND A. LOGG. Benchmarking Domain-Specific Compiler Optimizations for Variational Forms. *ACM Transactions on Mathematical Software*, vol. 35(2), pp. 1–18, 2008.
- [14] K. B. OELGAARD, A. LOGG AND G. N. WELLS. Automated Code Generation for Discontinuous Galerkin Methods. *SIAM J. Sci. Comput.*, vol. 31(2), pp. 849–864, 2008.
- [15] M. S. ALNÆS, A. LOGG, K.-A. MARDAL, O. SKAVHAUG AND H. P. LANGTANGEN. Unified Framework for Finite Element Assembly. *International Journal of Computational Science and Engineering*, vol. 4(4), pp. 231–244, 2009.
- [16] A. LOGG. Efficient Representation of Computational Meshes. *International Journal of Computational Science and Engineering*, vol. 4(4), pp. 283–295, 2009.
- [17] M. E. ROGNES, R. C. KIRBY AND A. LOGG. Efficient Assembly of  $H(\text{div})$  and  $H(\text{curl})$  Conforming Finite Elements. *SIAM Journal on Scientific Computing*, vol. 31(6), pp. 4130–4151, 2009.
- [18] A. LOGG AND G. N. WELLS. DOLFIN: Automated Finite Element Computing. *ACM Transactions on Mathematical Software*, vol. 37(2), 2010.
- [19] K. SELIM, A. LOGG AND M. G. LARSON. An Adaptive Finite Element Splitting Method for the Incompressible Navier–Stokes Equations. *Computer Methods in Applied Mechanics and Engineering*, vol. 209–212, pp. 54–65, 2011.

- [20] A. MASSING, M. G. LARSON AND A. LOGG. Efficient Implementation of Finite Element Methods on Non-Matching and Overlapping Meshes in 3D. *SIAM Journal on Scientific Computing*, vol. 35(1), pp. C23–C47, 2013.
- [21] M. E. ROGNES AND A. LOGG. Automated Goal-Oriented Error Control I: Stationary Variational Problems. *SIAM Journal on Scientific Computing*, vol. 35(3), pp. C173–C193, 2013.
- [22] A. MASSING, M. G. LARSON, A. LOGG AND M. E. ROGNES. A Stabilized Nitsche Overlapping Mesh Method for the Stokes Problem. *Numerische Mathematik*, pp. 1–29, 2014.
- [23] A. MASSING, M. G. LARSON, A. LOGG AND M. E. ROGNES. A Stabilized Nitsche Fictitious Domain Method for the Stokes Problem. *Journal of Scientific Computing*, vol. 61(3), pp. 1–25, 2014.
- [24] M. S. ALNÆS, A. LOGG, K. B. OELGAARD, M. E. ROGNES AND G. N. WELLS. Unified Form Language: A Domain-Specific Language for Weak Formulations of Partial Differential Equations. *ACM Transactions on Mathematical Software*, vol. 40, 2014.
- [25] D. N. ARNOLD AND A. LOGG. Periodic Table of the Finite Elements. *SIAM News*, 2014.
- [26] A. MASSING, M. G. LARSON, A. LOGG AND M. E. ROGNES. A Nitsche-Based Cut Finite Element Method for a Fluid–Structure Interaction Problem. *Communications in Applied Mathematics and Computational Science*, vol. 10(2), pp. 97–120, 2015.
- [27] A. JOHANSSON, M. G. LARSON AND A. LOGG. High Order Cut Finite Element Methods for the Stokes Problem. *Advanced Modeling and Simulation in Engineering Sciences*, vol. 2(24), 2015.
- [28] B. KEHLET AND A. LOGG. A Posteriori Error Analysis of Round-Off Errors in the Numerical Solution of Ordinary Differential Equations. *Numerical Algorithms*, vol. 76, pp. 191–210, 2017.
- [29] M. S. ALNÆS, J. BLECHTA, J. HAKE, A. JOHANSSON, B. KEHLET, A. LOGG, C. RICHARDSON, J. RING, M. E. ROGNES AND G. N. WELLS. The FEniCS Project Version 1.5. *Archive of Numerical Software*, vol. 3(100), 2015.
- [30] E. AMES, H. ANDREASSON AND A. LOGG. On Axisymmetric and Stationary Solutions of the Self-Gravitating Vlasov System. *Classical and Quantum Gravity*, vol. 33(15), 2016.
- [31] F. SVELANDER, G. KETTLIL, T. JOHNSON, A. MARK, A. LOGG AND F. EDELVIK. Robust Intersection of Structured Hexahedral Meshes and Degenerate Triangle Meshes with Volume Fraction Applications. *Numerical Algorithms*, vol. 77, 2017.
- [32] A. JOHANSSON, B. KEHLET, M. G. LARSON AND A. LOGG. MultiMesh Finite Element Methods: Solving PDEs on Multiple Intersecting Meshes. *Computer Methods in Applied Mechanics and Engineering*, vol. 343, pp. 672–689, 2019.
- [33] E. AMES, H. ANDREASSON AND A. LOGG. Cosmic String and Black Hole Limits of Toroidal Vlasov Bodies in General Relativity. *Physical Review D*, vol. 99, pp. 024012, 2018.
- [34] B. KETZLER, V. NASERENTIN, F. LATINO, C. ZANGELIDIS, L. THUVANDER AND A. LOGG. Digital Twins for Cities: A State of the Art Review. *Built Environment*, vol. 46(4), pp. 547–573, 2020.
- [35] A. JOHANSSON, M. G. LARSON AND A. LOGG. MultiMesh Finite Elements with Flexible Mesh Sizes. *Computer Methods in Applied Mechanics and Engineering*, vol. 372, 2020.
- [36] J. BORGQVIST<sup>1</sup>, A. MALIK, C. LUNDHOLM, A. LOGG, P. GERLEE AND M. CVIJOVIC. Cell polarisation in a bulk-surface model can be driven by both classic and non-classic Turing instability. *Systems Biology and Applications*, vol. 7(13), 2021.

## Books

- [1] J. HOFFMAN, C. JOHNSON AND A. LOGG. *Dreams of Calculus: Perspectives on Mathematics Education*, Springer, 2004.
- [2] A. LOGG, K.-A. MARDAL, G. N. WELLS ET AL.. *Automated Solution of Differential Equations by the Finite Element Method*, Springer, 2012.
- [3] H. P. LANGTANGEN AND A. LOGG. *Solving PDEs in Python*, Springer, 2017.
- [4] S. LARSSON, A. LOGG AND A. MÅLQVIST. *Differentialkalkyl och skalära ekvationer*, Studentlitteratur, 2020.

## Chapters in Books

- [1] K. ERIKSSON, C. JOHNSON AND A. LOGG. Adaptive Computational Methods for Parabolic Problems. In *Encyclopedia of Computational Mechanics*, edited by E. Stein, R. d. Borst and T. J. R. Hughes, Wiley Press, 2004.
- [2] A. LOGG, K.-A. MARDAL, M. S. ALNÆS, H. P. LANGTANGEN AND O. SKAVHAUG. A Hybrid Approach to Efficient Finite Element Code Development. In *Petascale Computing: Algorithms and Applications*, edited by D. A. Bader, Chapman and Hall, 2007.
- [3] A. LOGG. Att Lösa En Differentialekvation. In *Människor och matematik*, edited by O. Helenius and K. Wallby, Nationellt centrum för matematikutbildning, NCM, 2008.
- [4] A. LOGG, H. P. LANGTANGEN AND X. CAI. Past and Future Perspectives on Scientific Software. In *Simula Research Laboratory - by thinking constantly about it*, edited by A. Tveito, A. M. Bruaset and O. Lysne, Springer, 2009.
- [5] R. C. KIRBY AND A. LOGG. The Finite Element Method. In *Automated Solution of Differential Equations by the Finite Element Method*, edited by A. Logg, K.-A. Mardal and G. N. Wells, Springer, 2012.
- [6] R. C. KIRBY, A. LOGG, M. E. ROGNES AND A. R. TERREL. Common and Unusual Finite Elements. In *Automated Solution of Differential Equations by the Finite Element Method*, edited by A. Logg, K.-A. Mardal and G. N. Wells, Springer, 2012.
- [7] R. C. KIRBY AND A. LOGG. Finite Element Variational Forms. In *Automated Solution of Differential Equations by the Finite Element Method*, edited by A. Logg, K.-A. Mardal and G. N. Wells, Springer, 2012.
- [8] A. LOGG, K.-A. MARDAL AND G. N. WELLS. Finite Element Assembly. In *Automated Solution of Differential Equations by the Finite Element Method*, edited by A. Logg, K.-A. Mardal and G. N. Wells, Springer, 2012.
- [9] R. C. KIRBY AND A. LOGG. Tensor Representation of Finite Element Variational Forms. In *Automated Solution of Differential Equations by the Finite Element Method*, edited by A. Logg, K.-A. Mardal and G. N. Wells, Springer, 2012.
- [10] R. C. KIRBY, M. G. KNEPLEY, A. LOGG, L. R. SCOTT AND A. R. TERREL. Discrete Optimization of Finite Element Matrix Evaluation. In *Automated Solution of Differential Equations by the Finite Element Method*, edited by A. Logg, K.-A. Mardal and G. N. Wells, Springer, 2012.
- [11] A. LOGG, G. N. WELLS AND J. HAKE. DOLFIN: a C++/Python Finite Element Library. In *Automated Solution of Differential Equations by the Finite Element Method*, edited by A. Logg, K.-A. Mardal and G. N. Wells, Springer, 2012.
- [12] A. LOGG, K. B. OELGAARD, M. E. ROGNES AND G. N. WELLS. FFC: the FEniCS Form Compiler. In *Automated Solution of Differential Equations by the Finite Element Method*, edited by A. Logg, K.-A. Mardal and G. N. Wells, Springer, 2012.

- [13] R. C. KIRBY AND A. LOGG. FErari: an Optimizing Compiler for Variational Forms. In *Automated Solution of Differential Equations by the Finite Element Method*, edited by A. Logg, K.-A. Mardal and G. N. Wells, Springer, 2012.
- [14] M. S. ALNÆS, A. LOGG AND K.-A. MARDAL. UFC: a Finite Element Code Generation Interface. In *Automated Solution of Differential Equations by the Finite Element Method*, edited by A. Logg, K.-A. Mardal and G. N. Wells, Springer, 2012.
- [15] K. VALEN-SENDSTAD, A. LOGG, K.-A. MARDAL, H. NARAYANAN AND M. MORTENSEN. A Comparison of Finite Element Schemes for the Incompressible Navier–Stokes Equations. In *Automated Solution of Differential Equations by the Finite Element Method*, edited by A. Logg, K.-A. Mardal and G. N. Wells, Springer, 2012.
- [16] K. VALEN-SENDSTAD, K.-A. MARDAL AND A. LOGG. Computational Hemodynamics. In *Automated Solution of Differential Equations by the Finite Element Method*, edited by A. Logg, K.-A. Mardal and G. N. Wells, Springer, 2012.

## Refereed Proceedings

- [1] A. LOGG. Efficient Representation of Computational Meshes. In *MekIT'07*, 2007
- [2] M. SIKLOSI, O. E. JENSEN, R. H. TEW AND A. LOGG. Multiscale Modeling of the Acoustic Properties of Lung Parenchyma. In *Mathematical and numerical modelling of the human lung*, 2008
- [3] K. SELIM AND A. LOGG. Simulating Heart Valve Dynamics in FEniCS. In *MekIT'09*, 2009
- [4] B. KEHLET AND A. LOGG. A Reference Solution for the Lorenz System on  $[0, 1000]$ . In *AIP Conference Proceedings (ICNAAM 2010)*, 2010
- [5] A. LOGG AND G. WELLS. Building Flexible User Interfaces for Solving PDEs. In *AIP Conference Proceedings (ICNAAM 2010)*, 2010
- [6] A. MASSING, M. G. LARSON AND A. LOGG. Towards an Implementation of Nitsche’s Method on Overlapping Meshes in 3D. In *AIP Conference Proceedings (ICNAAM 2010)*, 2010
- [7] G. BALABAN, A. LOGG AND M. E. ROGNES. A Newton Method for Fluid–Structure Interaction Using Full Jacobians Based on Automatic Form Differentiation. In *Proceedings of ECCOMAS 2012*, 2012
- [8] B. KEHLET AND A. LOGG. Quantifying the Computability of the Lorenz System. In *Adaptive Modeling and Simulation*, 2013
- [9] S. INGELSTEN, A. MARK, F. EDELVIK, A. LOGG AND M. ÖSTERBRING. Urban CFD-Simulation Using Point Cloud Data. In *Proceedings of 29th Nordic Seminar on Computational Mechanics - NSCM29*, 2016
- [10] J. LARSSON, A. LOGG, K. MODIN AND A. SEHLSTRÖM. Moving Mesh and Image Registration in FEniCS. In *Proceedings of 30th Nordic Seminar on Computational Mechanics - NSCM30*, 2017
- [11] A. LOGG, C. LUNDHOLM AND M. NORDAAS. Solving Poissons Equation on the Microsoft HoloLens. In *Proceedings of the 23rd ACM Symposium on Virtual Reality Software and Technology, VRST 2017, Gothenburg, Sweden, November 8-10, 2017*, 2017
- [12] F. LATINO, V. NASERENTIN, E. ÖHRN, S. ZHAU, M. FJELD, L. THUVANDER AND A. LOGG. Virtual-City@Chalmers: Creating a Prototype for a Collaborative Early Stage Urban Planning AR Application. In *Proceedings of the 7th eCAADe Regional International Symposium*, 2019
- [13] L. THUVANDER, F. LATINO, C. ZANGELIDIS, M. ADELFIGIO, V. NASERENTIN AND A. LOGG. Towards Spatial Integration of Qualitative Data for Urban Transformation – Challenges with Automated Geovisualization of Perception of Urban Places. In *IOP Conference Series: Earth and Environmental Science*, 2020

- [14] R. MITKOV, M. PANTUSHEVA, V. NASERENTIN, P. O. HRISTOV, D. WÄSTBERG, F. HUNGER, A. MARK, D. PETROVA-ANTONOVA, F. EDELVIK AND A. LOGG. Using the Octree Immersed Boundary Method for Urban Wind CFD Simulations. In *IFAC-PapersOnLine: IFAC Workshop on Control for Smart Cities CSC 2022*, 2022
- [15] V. NASERENTIN, S. SOMANATH, O. ELEFThERIOU AND A. LOGG. Combining Open Source and Commercial Tools in Digital Twin for Cities Generation. In *IFAC-PapersOnLine: IFAC Workshop on Control for Smart Cities CSC 2022*, 2022
- [16] N. KOLIBAROV, D. WÄSTBERG, V. NASERENTIN, D. PETROVA-ANTONOVA, S. ILIEVA AND A. LOGG. Roof Segmentation Towards Digital Twin Generation in LoD2+ Using Deep Learning. In *IFAC Workshop Control for Smart Cities*, 2022

## Conference Proceedings

- [1] C. JOHNSON, J. HOFFMAN AND A. LOGG. Topics in Adaptive Computational Methods for Differential Equations. In *CEDYA 2001: Congreso de Ecuaciones Diferenciales y Aplicaciones*, 2001
- [2] J. HOFFMAN, C. JOHNSON AND A. LOGG. Mathematics and Computation. In *Stockholm Intelligencer: Fourth European Congress of Mathematics*, 2004
- [3] A. LOGG. Automated Solution of Differential Equations. In *Sixth International Congress on Industrial Applied Mathematics (ICIAM07) and GAMM Annual Meeting, Zürich*, 2007
- [4] K. B. OELGAARD, G. N. WELLS AND A. LOGG. Automated Computational Modelling for Solid Mechanics. In *IUTAM Symposium on Theoretical, Modelling and Computational Aspects of Inelastic Media*, 2008
- [5] H. P. LANGTANGEN AND A. LOGG. Trends in Computational Mechanics Software. In *21st Nordic Seminar on Computational Mechanics*, 2008
- [6] H. NARAYANAN, K. GARIKIPATI AND A. LOGG. Collaborative Computational Frameworks and the Growth Problem. In *The Mathematics of Growth and Remodelling of Soft Biological Tissues, Mathematisches Forschungsinstitut Oberwolfach Reports*, 2008
- [7] A. LOGG. An Overview of the FEniCS Project. In *21st Nordic Seminar on Computational Mechanics*, 2008
- [8] A. LOGG AND V. NASERENTIN. Digital Twin Cities: Multi-Disciplinary Modeling and High-Performance Simulation of Cities. In *ECCOMAS Newsletter*, 2022

## Theses

- [1] A. LOGG. A Multi-Adaptive ODE-Solver, M.Sc. Thesis, Chalmers University of Technology, 1998.
- [2] A. LOGG. Multi-Adaptive Galerkin Methods for ODEs, Lic. Thesis, Chalmers University of Technology, 2001.
- [3] A. LOGG. Automation of Computational Mathematical Modeling, Ph.D. Thesis, Chalmers University of Technology, 2004.

## Other Publications

- [1] G. CHRISTIANSSON AND A. LOGG, *Vätskekristaller: En Kort Introduktion*, Scientium, 1996.
- [2] G. CHRISTIANSSON AND A. LOGG, *Vätskekristaller Del 2: LCD (vätskekristall-Displayer)*, Scientium, 1996.
- [3] A. LOGG, J. JANSSON ET AL., *Body and Soul Computer Sessions*, URL: <http://www.bodysoulmath.org/sessions/>, 2006.



- [4] A. LOGG, *Automating the Finite Element Method*, Lecture notes for the Sixth Winter School in Computational Mathematics, 2006.
- [5] A. LOGG, *Beräkningsmatematik*, URL: <http://www.forskning.se>, 2008.
- [6] B. S. WÄSTBERG, J. FÖRSSÉN, L. THUVANDER, M. BILLGER, A. LOGG AND F. LATINO, *Visualisering och auralisering av buller i stadsmiljö*, Bygg & Teknik, 2020.
- [7] A. LOGG AND V. NASERENTIN, *Modeling and Simulating Cities with Digital Twins*, in *GIM International*, vol. 36, 2022.