

## Donald M. Stull

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CONTACT INFORMATION	Lecturer Iowa State University Department of Computer Science	<a href="mailto:dstull@iastate.edu">dstull@iastate.edu</a> <a href="http://www.dmstull.com">www.dmstull.com</a>
RESEARCH INTERESTS	Algorithmic information and randomness, computable analysis, fractal geometry and molecular programming.	
EDUCATION	<b>Iowa State University</b> Ph.D. in Computer Science, 2017 <ul style="list-style-type: none"><li>• Advisor: Jack H. Lutz</li></ul> <b>University of Texas at Austin</b> B.S. in Computer Science, May 2011	
PROFESSIONAL EXPERIENCE	<b>Lecturer</b> , Department of Computer Science, Iowa State University <i>September 2019 - Present</i> <b>Postdoctoral Researcher</b> , INRIA, Nancy Supervised by Mathieu Hoyrup <i>January 2018 - August 2019</i> <b>Graduate Research Assistant</b> , Iowa State University Supervised by Jack Lutz <i>August 2011 - November 2017</i>	
TEACHING EXPERIENCE	<b>Lecturer</b> , Iowa State University Design and Analysis of Algorithms, <i>Fall 2019</i> Introduction to Object-Oriented Programming, <i>Fall 2019</i> Design and Analysis of Algorithms, <i>Spring 2020</i> Introduction to Object-Oriented Programming, <i>Spring 2020</i> <b>Graduate Teaching Assistant</b> , Iowa State University Design and Analysis of Algorithms (Graduate), <i>Fall 2015</i> Theory of Computation (Graduate), <i>Spring 2016</i> Design and Analysis of Algorithms, <i>Summer 2016</i> Finite-State Information and Randomness, <i>Fall 2017</i>	
REFEREED CONFERENCE PUBLICATIONS	Xiang Huang, Jack H. Lutz, Elvira Mayordomo, D. M. Stull, Asymptotic divergences and strong dichotomy, <i>Symposium on Theoretical Aspects Of Computer Science (STACS)</i> , 2020. Mathieu Hoyrup, Cristobal Rojas, Victor Selivanov and D. M. Stull, Computability on quasi-Polish spaces, <i>International Conference on Descriptive Complexity of Formal Systems (DCFS)</i> , 2019. Mathieu Hoyrup and D. M. Stull, Semicomputable points in Euclidean spaces, <i>International Symposium on Mathematical Foundations of Computer Science (MFCS)</i> ,	

2019.

Donald M. Stull, Results on the dimension spectra of planar lines, *Proceedings of the 43rd International Symposium on Mathematical Foundations of Computer Science (MFCS 2018)*.

Neil Lutz, D. M. Stull, Projection theorems using effective dimension, *Proceedings of the 43rd International Symposium on Mathematical Foundations of Computer Science (MFCS 2018)*.

Timothy H. McNicholl and D. M. Stull, The isometry degree of a computable copy of  $\ell^p$ , *Proceedings of the 14th Annual Conference on Computability in Europe (CiE 2018)*.

Mathieu Hoyrup, Diego Nava Saucedo and Don M. Stull, Semicomputable geometry, *Proceedings of the 45th International Colloquium on Automata, Languages, and Programming (ICALP 2018)*.

Neil Lutz and D. M. Stull, Dimension spectra of lines, *Proceedings of the 13th Annual Conference on Computability in Europe (CiE 2017)*.

Neil Lutz and D. M. Stull, Bounding the dimension of points on a line, *Proceedings of the 14th Annual Conference on Theory and Applications of Models of Computation (TAMC 2017)*.

Xiang Huang, D. M. Stull, Polynomial space randomness in analysis, *Proceedings of the 41st International Symposium on Mathematical Foundations of Computer Science (MFCS 2016)*.

Adam Case, Jack H. Lutz, and D. M. Stull, Reachability problems for continuous chemical reaction networks, *Proceedings of the Fifteenth International Conference on Unconventional Computation and Natural Computation (UCNC 2016)*.

Robyn R. Lutz, Jack H. Lutz, James I. Lathrop, Titus H. Klinge, Divita Mathur, D. M. Stull, Taylor G. Bergquist, and Eric R. Henderson, Requirements analysis for a product family of DNA nanodevices, *Proceedings of the Twentieth IEEE International Requirements Engineering Conference (RE 2012)*.

JOURNAL  
PUBLICATIONS

Neil Lutz and D. M. Stull, Bounding the dimension of points on a line, To appear in *Information & Computation*.

Timothy H. McNicholl and D. M. Stull, The isometry degree of a computable copy of  $\ell^p$ , To appear in *Computability*.

Joe Clanin, Timothy H. McNicholl and D. M. Stull, Analytic computable structure theory and  $L^p$  spaces, To appear in *Fundamenta Mathematicae*.

Adam Case, Jack H. Lutz, and D. M. Stull, Reachability problems for continuous chemical reaction networks, *Natural Computing* **17** (2018), pp. 223-230.

SURVEYS AND  
EXPOSITORY

D. M. Stull, Resource-bounded randomness and its applications, to appear in *Algorithmic Randomness: Progress and Prospects*.

IN PROGRESS	D. M. Stull, The dimension of projections induced by a curve, <i>arXiv preprint arXiv:1912.08060</i> .
AWARDS AND HONORS	Research Excellence Award from the ISU Graduate College, Fall 2016
INVITED TALKS	<p><i>Sixteenth International Conference on Computability, Complexity and Randomness (CCR)</i>, Isaac Newton Institute for Mathematical Sciences, University of Cambridge, June 2020.</p> <p><i>Southeastern Logic Symposium (SEALS)</i>, University of Florida, February 2020.</p> <p><i>Semicomputable Geometry</i>, Iowa State University Logic Seminar, Iowa State University, October 31, 2019.</p> <p><i>The effective dimension of points on lines</i>, AMS-MMA Joint Mathematics Meeting 2019, AMS Special Session on Algorithmic Dimensions and Fractal Geometry, January 16-19, 2019.</p> <p><i>Hausdorff dimension and Kolmogorov complexity</i>, Computability and Category Theoretic Perspectives on Descriptive Set Theory, Swansea University, July 16-18, 2018.</p> <p><i>Projection theorems using effective dimension</i>, Workshop on Algorithmic Questions in Dynamical Systems, Institut de Mathématiques de Toulouse, March 26-29, 2018.</p> <p><i>Effective dimension of planar lines</i>, Midwest Computability Seminar, University of Chicago, October 24, 2017.</p> <p><i>Effective dimension of points on lines</i>, Iowa Colloquium on Information, Complexity and Logic (ICICL), Grinnell College, September 14th, 2017.</p> <p><i>Polynomial space randomness and analysis</i>, AMS Fall Central Sectional Meeting, Special Section on Effective Mathematics in Discrete and Continuous Worlds, University of St. Thomas, October 28-30, 2016.</p>
CONFERENCE AND SEMINAR TALKS	<p><i>Selection, divergence, and dichotomy</i>, Thirteenth International Conference on Computability, Complexity and Randomness (CCR 2018), December 17-21, 2018.</p> <p><i>The effective dimensions of points on lines</i>, Thirteenth International Conference on Computability, Complexity and Randomness (CCR 2018), December 17-21, 2018.</p> <p><i>Results on the dimension spectra of planar lines</i>, 43rd International Symposium on Mathematical Foundations of Computer Science (MFCS 2018), August 27-31, 2018.</p> <p><i>Projection theorems using effective dimension</i>, 43rd International Symposium on Mathematical Foundations of Computer Science (MFCS 2018), August 27-31, 2018.</p> <p><i>The isometry degree of a computable copy of <math>\ell^p</math></i>, 14th Annual Conference on Computability in Europe (CiE 2018), July 30-August 3, 2018.</p> <p><i>Semicomputable geometry</i>, 45th International Colloquium on Automata, Languages, and Programming (ICALP 2018), July 10-13, 2018.</p>

*Semicomputable geometry*, Journées du GT Calculabilités du GDR IM, LIX, July 2-3, 2018.

*Dimension spectra of lines*, 13th Annual Computability in Europe (CiE 2017), June 12-16, 2017.

*Polynomial space randomness and analysis*, 41st International Symposium on Mathematical Foundations of Computer Science (MFCS 2016), August 22-26, 2016.

*Reachability problems for continuous chemical reaction networks*, Fifteenth International Conference on Unconventional Computation and Natural Computation (UCNC 2016), July 11-15, 2016.