

# François G. Dorais

7 Clymer St  
Burlington, VT 05401

☎ 310-890-2198

☎ 802-656-0850

✉ francois.dorais@uvm.edu

🌐 www.dorais.org

## Education

- 2007 **Ph.D.**, *Dartmouth College*, Hanover, NH, Mathematics.
- 2004 **A.M.**, *Dartmouth College*, Hanover, NH, Mathematics.
- 2002 **B.A.**, *Concordia University*, Montréal, QC, Specialization in Mathematics.

## Employment

- 2015–Present **Lecturer**, *University of Vermont*, Burlington, VT.
- 2012–2015 **John Wesley Young Research Instructor**, *Dartmouth College*, Hanover, NH.
- 2011–2012 **Lecturer**, *Appalachian State University*, Boone, NC.
- 2008–2011 **Assistant Professor (Term)**, *University of Michigan*, Ann Arbor, MI.
- 2007–2008 **Visiting Assistant Professor**, *Cornell University*, Ithaca, NY.
- 2004–2007 **Lecturer (Graduate Student)**, *Dartmouth College*, Hanover, NH.

## Publications

*Comparing the strength of diagonally non-recursive functions in the absence of  $\Sigma_2^0$  induction*, *Journal of Symbolic Logic*, to appear.

(With J. Hirst, P. Shafer)

*Isotopy and homotopy invariants of classical and virtual pseudoknots*, *Osaka Journal of Mathematics*, to appear.

(With A. Henrich, S. Jablan, I. Johnson)

*On uniform relationships between combinatorial problems*, *Transactions of the American Mathematical Society*, to appear.

(With D. Dzhamalov, J. Hirst, J. Mileti, P. Shafer)

*Classical consequences of continuity principles from intuitionistic analysis*, *Notre Dame Journal of Formal Logic* 55, 2014, 25–39.

*Reverse mathematics and algebraic field extensions*, *Computability* 2, 2013, 75–92.

(With J. Hirst, P. Shafer)

*Automorphism groups of countably categorical linear orders are extremely amenable*, *Order* 30, 2013, 415–426.

(With S. Gubkin, D. McDonald, M. Rivera)

*A note on conjectures of F. Galvin and R. Rado*, *Canadian Mathematical Bulletin* 56, 2013, 317–325.

*On some properties of Hamel bases and their applications to Marczewski measurable functions*, *Central European Journal of Mathematics* 11, 2013, 487–508.

(With R. Filipów, T. Natkaniec)

***A variant of Mathias forcing that preserves  $\text{ACA}_0$*** , *Archive for Mathematical Logic* 51, 2012, 751–780.

***Reverse mathematics, trichotomy, and dichotomy***, *Journal of Logic and Analysis* 4:13, 2012, 1–14.

(With J. Hirst, P. Shafer)

***On the indecomposability of  $\omega^n$*** , *Notre Dame Journal of Formal Logic* 53, 2012, 373–395.

(With J. Corduan)

***Near Wieferich primes up to  $6.7 \times 10^{15}$*** , *Journal of Integer Sequences* 14, 2011, Art. 11.9.2.

(With D. Klyve)

***Stationary and convergent strategies in Choquet games***, *Fundamenta Mathematicae* 209, 2010, 59–79.

(With C. Mummert)

***Souslin trees and degrees of constructibility***, Ph.D. Thesis, Dartmouth College, 2007.

***Algebraic sums of sets in Marczewski–Burstin algebras***, *Real Analysis Exchange* 31, 2005/2006, 133–142.

(With R. Filipów)

(Preprints available at [logic.dorais.org/papers](http://logic.dorais.org/papers).)

---

## Selected Talks

***Non-standard models and non-uniformity in recursion theory***, ASL Annual Meeting (University of Illinois at Urbana-Champaign), March 2015.

***Prospects for a Reverse Analysis of Topology***, Boolean Algebras, Lattices, Universal Algebra, Set Theory and Topology (BLAST, Chapman University), August 2013.

***The Power of Repetition***, Mathematics Colloquium (Dartmouth College), April 2013.

***MathOverflow***, Committee on Planning a Global Library of the Mathematical Sciences (The National Academies, Washington, DC), November 2012.

***Reverse Mathematics and Infinite Algebraic Field Extensions***, New England Recursion and Definability Seminar (NERDS, Wellesley College), October 2012.

***Logical Aspects of Infinite Perfect Graphs***, Mathematics Colloquium (Mount Allison University), January 2012.

***Symmetries of Countably Categorical Linear Orders***, Mathematical Sciences Colloquium (Appalachian State University), September 2011.

***Freshman Seminars***, IBL Workshop (University of Michigan), May 2011.

***Classical consequences of continuous choice principles from intuitionistic analysis***, ASL Winter Meeting (Boston, MA), January 2012.

***Class Forcing in Small Universes***, Logic Seminar (Dartmouth College), March 2008.

***On a Conjecture of Galvin***, Boise Extravaganza in Set Theory (BEST, Boise State University), March 2008.

*Effective Souslin Trees and Degrees in  $\alpha$ -Recursion Theory*, ASL Winter Meeting (New Orleans, Louisiana), January 2007.

*Souslin Trees and Degrees of Constructibility, Part II*, Logic Seminar (MIT), May 2006.

*Souslin Trees and Degrees of Constructibility, Part I*, Greater Boston Logic Conference (MIT), May 2006.

*Souslin Trees and Degrees of Constructibility*, Boise Extravaganza in Set Theory (BEST, Boise State University), March 2006.

*Embedding Complete Distributive Lattices into the  $\omega_1$ -Degrees of Constructibility*, Logic Seminar (MIT), September 2005.

*On the Topological Baumgartner–Hajnal Theorem*, Logic Seminar (MIT), February 2005.

*Partition Theorems for Perfect Sets*, Logic Seminar (MIT), October 2004.

---

## Teaching Experience

### University of Vermont

Fall 2015 Math 21: Calculus I

Fall 2015 Math 124: Linear Algebra

### Dartmouth College

Spring 2015 Math 29, Introduction to Computability.

Winter 2015 Math 69, Logic.

Fall 2014 Math 8, Calculus of Functions of One and Several Variables.

Spring 2014 Math 24, Honors Linear Algebra.

Winter 2014 Math 89, Seminar on Foundations of Mathematics.

Fall 2013 Math 8, Calculus of Functions of One and Several Variables.

Spring 2013 Math 29, Introduction to Computability.

Winter 2013 Math 87, Categories, Topoi, and Logic.

Fall 2012 Math 3, Introduction to Calculus.

### Appalachian State University

Summer 2012 MAT 1110, Calculus I.

Spring 2012 MAT 1120, Calculus II.

Spring 2012 MAT 2110, Techniques of Proof.

Fall 2011 MAT 1110, Calculus I.

Fall 2011 MAT 2110, Techniques of Proof.

### University of Michigan

Winter 2011 Math 582, Intro to Set Theory.

Winter 2011 Math 217, Linear Algebra.

Fall 2010 Math 175, Intro to Cryptology.

Winter 2010 Math 582, Intro to Set Theory.

Fall 2009 Math 175, Intro to Cryptology.

Winter 2009 Math 417, Matrix Algebra.

Fall 2008 Math 175, Intro to Cryptology.

### Cornell University

- Summer 2008 REU, Games, Linear Orders, and Logic.  
Winter 2008 Math/CS 486, Applied Logic.  
Winter 2008 Math 213, Calculus III.  
Fall 2007 Math 231, Linear Algebra with Applications.  
Fall 2007 Math 213, Calculus III.

### Dartmouth College

- Fall 2006 Math 3, Introduction to Calculus.  
Fall 2006 Math 87, Model Theory of Linear Orderings.  
Winter 2006 Math 14, Honors Multivariable Calculus.  
Spring 2005 Math 109, Computability Theory.

---

### Service

- Referee Fundamenta Mathematicae, Studia Logica, Journal of Symbolic Logic, Notre Dame Journal of Formal Logic, Mathematical Logic Quarterly  
Reviewer The Alfred P. Sloan Foundation, The National Academies (USA), Agence Nationale de la Recherche (France)  
Moderator MathOverflow

---

### Awards and Honors

- 2014 AIBL Small Grant, Educational Advancement Foundation.  
2013–2015 MathOverflow Grant, Alfred P. Sloan Foundation.  
2009 Summer Research Fellowship, University of Michigan.  
2002–2007 Graduate Fellowship, Dartmouth College.