

# Curriculum Vitae

B. Miller

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## RESEARCH INTERESTS

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Descriptive set theory and its connections with combinatorics and ergodic theory

## EDUCATION

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8/1998–5/2004 University of California, Berkeley: PhD in Mathematics

8/1994–6/1998 California Institute of Technology: BS/MS in Mathematics

## EMPLOYMENT

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3/2022–Present Career break (to take care of mother)

9/2017–2/2022 Tenured Full Professor, University of Vienna, Austria

3/2016–8/2017 Tenured Associate Professor, University of Vienna, Austria

4/2015–2/2016 Tenure-track Assistant Professor, University of Vienna, Austria

8/2010–3/2015 Tenured Associate Professor, University of Muenster, Germany

7/2007–7/2010 Career break (to take care of father)

7/2004–6/2007 Assistant Professor, University of California, Los Angeles

## THIRD-PARTY FUNDING

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2017 – 2019 Austrian Science Foundation Grant P29999 (€ 320,000)

2015 – 2018 Austrian Science Foundation Grant P28153 (€ 314,000)

2014 – 2018 German Science Foundation SFB Grant 878 Project A6 continuation (€ 235,000)

2010 – 2014 German Science Foundation SFB Grant 878 Project A6 (€ 294,000)

## SELECTED PUBLICATIONS

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*Minimal definable graphs of definable chromatic number at least three* (with R. Carroy, D. Schritterser, and Z. Vidnyánszky)

Forum of Mathematics, Sigma, E7 1–16, **9** (2021)

*Dichotomy theorems for families of non-cofinal essential complexity* (with J. Clemens and D. Lecomte)

Advances in Mathematics, 285–299, **304** (2017)

*Measure reducibility of countable Borel equivalence relations* (with C. Conley)

Annals of Mathematics, 347–402, **185 (2)** (2017)

*The smooth ideal* (with C. Conley and J. Clemens)

Proceedings of the London Mathematical Society, 57–80, **112 (1)** (2016)

- The Borel cardinality of Lascar strong types* (with I. Kaplan and P. Simon)  
 Journal of the London Mathematical Society, 609–630, **90** (2) (2014)
- Essential countability of treeable equivalence relations* (with J. Clemens and D. Lecomte)  
 Advances in Mathematics, 1–31, **265** (2014)
- Descriptive Kakutani equivalence* (with C. Rosendal)  
 Journal of the European Mathematical Society, 179–219, **12** (1) (2010)

## SELECTED INVITED LECTURES

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- Definable cardinals just beyond  $\mathbb{R}/\mathbb{Q}$*   
 European Logic Colloquium (plenary lecture), Vienna (2014)
- The smooth ideal*  
 Winter ASL Meeting (session in honor of L. Harrington), Berkeley (2011)
- Graph-theoretic dichotomy theorems in descriptive set theory*  
 Eleventh CIRM Workshop in Set Theory (three-lecture minicourse), Luminy (2010)
- Forceless, ineffective, powerless proofs of descriptive set-theoretic dichotomy theorems*  
 European Logic Colloquium (plenary lecture), Sofia (2009)

## CONFERENCE ORGANIZATION

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- 7/2019    Seventh European Set Theory Conference, University of Vienna, Austria
- 9/2018    Set Theory Today: A Conference in Honor of Georg Cantor, University of Vienna, Austria
- 6/2018    Descriptive Set Theory, CBI, EPFL, Switzerland
- 12/2016    Current Trends in Descriptive Set Theory, ESI, University of Vienna, Austria
- 10/2012    MALOA Set Theory Research Workshop, University of Muenster, Germany

## TEACHING

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|---------------------------------------|---|
| University of Vienna                  | Lecturer for graduate seminars in descriptive set theory and measure theory; supervisor for PhD students  |
| University of Muenster                | Lecturer for undergraduate and graduate courses and seminars in descriptive set theory, forcing, logic, model theory, recursion theory, and set theory; supervisor for PhD students |
| University of California, Los Angeles | Lecturer for undergraduate and graduate courses in calculus, complex analysis, linear algebra, logic, multivariable calculus, and set theory; informal supervisor for a PhD student |
| University of California, Berkeley    | Teaching assistant for courses in calculus, differential equations, linear algebra, multivariable calculus, and numerical analysis  |
| California Institute of Technology    | Teaching assistant for courses in calculus, differential equations, discrete mathematics, linear algebra, and multivariable calculus  |