

## **Steven Buechler**

Department of Mathematics  
255 Hurley Hall  
University of Notre Dame  
Notre Dame, IN. 46556  
(572)631-6233  
Buechler.1@nd.edu

### ***Education***

Eastern Illinois University: 1975, B.A. (Math), B.S. (Physics)  
University of Maryland: 1977, M.A.  
University of Maryland: 1981, Ph.D.

### ***Positions Held***

1981-83     Gibbs Instructor, Yale University  
1983-87     Assistant Professor, University of Wisconsin-Milwaukee  
1985-87     NSF Postdoctoral Research Fellow (Univ. Cal.-Berkeley)  
1987-88     Associate Professor, University of Wisconsin-Milwaukee  
1987 -92     Associate Professor, University of Notre Dame  
1992-        Professor, University of Notre Dame  
2004-05     Visiting Professor, Mathematical Biosciences Institute, Ohio State Univ.

### ***Administrative Positions***

1992-95     Associate Chair, and Director of Undergraduate Studies,  
                  Department of Mathematics  
1995-96     Associate Provost  
1996-2000   Associate Dean for Research, College of Science  
2000-2004   Department Chair, Mathematics

### ***Invited Addresses***

1982         Meeting, American Math. Society, College Park, MD.

- 1983 Meeting Mid-Atlantic Model Theory Conference, New Haven, Ct.  
Meeting, Midwest Model Theory Conference, Chicago, IL
- 1984 Meeting, American Math. Society, Notre Dame, In.  
Meeting, Stability in Model Theory(sponsored by CIRM), Trento, Italy.  
Forking Festival (sponsored by NSF), Chicago, IL.
- 1985 Meeting on Stability Thoery, College Park, MD.  
Meeting, Association for Symbolic Logic, Orsay, France  
U.S.-Israel joint workshop in Model Theory, Chicago, IL.
- 1986 Meeting in Model Theory (sponsored by NSF), Notre Dame, IN.
- 1988 Meeting on Model theory, Oberwolfach, West Germany  
University of Maryland, College Park, Maryland  
University of Illinois, Urbana, Illinois
- 1989 Boston Area Logic Conference, Boston, MA.  
Meeting, Midwest Model Theory Conference, Chicago, IL.  
Meeting, Association for Symbolic Logic, West Berlin, W. Germany  
Malcev Conference, Novosibirsk, USSR
- 1990 Workshop on Model Theory, MSRI, Berkeley, CA  
Model Theory Conference, Karaganda, USSR
- 1991 Stability in Model Theory III, Trento, Italy
- 1992 Meeting in Model Theory, Oberwolfach, Germany (5 hour lecture series)  
Annual meeting of the Assoc. for Symbolic Logic, Duke University
- 1994 Workshop in Stability Theory, Helsinki, Finland
- 1995 Meeting of the MidAtlantic Model Theory Conference, Pittsburgh
- 1999 AMS annual meeting, San Antonio, special session  
Boston Area Logic Conference, Boston, MA
- 2000 Association for Symbolic Logic, annual meeting, Urbana  
Workshop on buildings and the model theory of groups, Wuerzburg,  
Germany  
Workshop on Simple Theories, Fields Institute, Toronto
- 2001 Annual meeting of the Association for Symbolic Logic, Philadelphia, PA  
Joint Meeting of the AMS and SMF, Lyon, France
- 2002 Mid-Atlantic Mathematical Logic Conference, Pittsburgh, PA

2005 Conference on Vaught's Conjecture, Notre Dame, IN (two lectures)

***Conferences and Workshops Attended by Invitation***

1986 Meeting on Model Theory, Oberwolfach, W. Germany

1987 Stability in Model Theory II, Trento, Italy

1994 Meeting on Model Theory, Oberwolfach, W. Germany

1994 NATO ASI on Algebraic Model Theory, Fields Institute, Toronto

2000 Meeting on Model Theory, Oberwolfach, Germany

2003 IMA New Directions Workshop in Cellular Physiology, Minneapolis

2004 Meeting on Model Theory, Oberwolfach, Germany

***Publications***

- [1] *Expansions of models of  $\omega$ -stable theories*, J. of Symbolic Logic, Vol. 49, No. 2 (June, 1984).
- [2] *Kueker's conjecture for superstable theories*, J. of Symbolic Logic, Vol. 49, No. 3 (Sept., 1984).
- [3] *Resplendency and recursive definability in  $\omega$ -stable theories*, Israel J. of Math., Vol. 44, Nos. 1-2 (1984).
- [4] *Coordinatization in superstable theories I: stationary types*, Trans. of the American Math. Society, Vol. 288, No. 1 (March, 1985).
- [5] *The geometry of weakly minimal types*, J. of Symbolic Logic, Vol. 50, No. 4 (Dec., 1985) 1044-1053.
- [6] *One theorem of Zil'ber's on strongly minimal sets*, J. of Symbolic Logic, Vol. 50, No. 4 (Dec., 1985) 1054-1061.
- [7] *Invariants for  $\omega$ -categorical,  $\omega$ -stable theories*, Israel J. of Math., Vol. 52, Nos. 1-2 (1985) 65-81.
- [8] *Locally modular theories of finite rank*, Annals of Pure and Applied Logic 30 (1986) 83-94.
- [9] S. Buechler, *Maximal chains in the fundamental order*. J. of Symbolic Logic, Vol. 51, No. 2 (June, 1986)

- [10] *Geometrical stability theory*, 1987, Logic Colloquium '85, Paris Logic Group, North-Holland, Amsterdam, pp. 53-66.
- [11] *On Non-trivial types of U-rank 1*, J. of Symbolic Logic Vol. 52, No. 2, June 1987, pp 548-551.
- [12] *Isolated Types in a Weakly Minimal Set*, Journal of Symbolic Logic, Vol. 52. No. 2, June 1987.
- [13] *The Classification of small weakly minimal sets I*, 1988, Classification Theory, John T. Baldwin, Springer-Verlag, Heidelberg, West Germany, pp. 32-72.
- [14] *Coordinatization in superstable theories II*, Translations of the American Math. Society, Vol. 307, No. 1, May 1988, pp 411-417.
- [15] *The Classification of small weakly minimal sets II*, J. of Symbolic Logic, Vol. 53, No. 2, June 1988, pp 625-635.
- [16] *The Classification of small weakly minimal sets III: modules*, J. of Symbolic Logic, Vol. 53, No. 3 (Sept., 1988) pp. 975-979.
- [17] (with Saharon Shelah) *On the existence of regular types*, Annals of Pure and Applied Logic, 45 (1989) 277-308.
- [18] *An outline of Vaught's conjecture for undimensional theories*; in: Proceedings of the Soviet-French Colloquium on Model Theory, Karaganda; University of Karaganda (1990) pp. 14-26.
- [19] *Pseudoprojective strongly minimal sets are locally projective*, J. of Symbolic Logic Vol. 56, No.4 (1991) 1184-1194.
- [20] *Vector spaces with a distinguished subgroup*, Proceedings of the Malcev Conference on Algebra, Novosibirsk, Contemporary Mathematics, 131, American Math. Soc., 1992, pp 541-553.
- [21] *On the geometry of U-rank 2 types* (with L. Newelski), Logic Colloquium'90, North-Holland 1994.
- [22] *Lascar strong types in some simple theories*, J. of Symbolic Logic, Vol. 64, No.2, 1999, 817-824.
- [23] (with C. Hoover) *Classification of small types of rank  $\omega$* , part I, J. of Symbolic Logic, Vol. 66, No. 4 (2001) 1884-1898.
- [24] (with A.Pillay, F. Wagner) *Supersimple theories*, J. of Amer. Math. Soc., Vol. 14, No. 1 (2001) 109-124.

- [25] (with O. Lessmann) *Simple homogeneous models*, J. of American Mathematical Society, Vol. 16, No. 1 (2003) 91-121.
- [26] (with A. Berenstein) *Simple stable homogeneous expansions of Hilbert spaces*, Annals of Pure and Applied Logic, Vol 128, Nos. 1-3 (2004) 75-101.

***Preprints***

- [27] *Vaught's conjecture for superstable theories of finite rank*, Annals of Pure and Applied Logic (to appear).

***BOOK***

**Essential Stability Theory**, *Perspectives in Mathematical Logic*, Springer-Verlag, Heidelberg-Berlin-New York, 1996. (330 pages)

***Grants:***

NSF 1985–2000  
2002-2005  
NSF RTG grant. 2004-2007  
Conference grant 2005

***Doctoral Theses Completed Under Steven Buechler***

Ambar Chowdhury , 1992  
Katrin Tent, 1993  
Colleen Hoover, 1999  
Evgueni Vassiliev, 2001  
Alexander Berenstein, 2002  
Jacob Heidenreich, 2005

Present students:  
Prerna Bihani