

Liz R. Vivas

The Ohio State University, Columbus, OH
<https://people.math.osu.edu/vivas.3/> vivas.3@osu.edu

Education

Ph.D. in Mathematics, University of Michigan, May 2009. Advisor: Berit Stensønes (deceased).
M. Sci. in Mathematics, IMPA, Brazil, 2004. Advisor: Cesar Camacho

Academic Appointments

Member of the Institute for Advanced Study, Princeton, NJ, January 2025 - April 2025.
CRM Simons Visitor, Montreal, Canada, September 2023 - December 2023.
SLMath (former MSRI) Research Professor, Berkeley, CA. January 2022 - May 2022.
Associate Professor, The Ohio State University, Columbus OH. July 2020 - present.
Assistant Professor, The Ohio State University, Columbus OH. August 2014- June 2020.
Research Fellow, Centre for Advanced Study, Oslo, Norway. May-June 2017.
Postdoctoral Researcher, Universidad Federal Fluminense, Brazil. January 2013 - July 2014.
Visiting Scholar, Institute Henri Poincaré, Paris. September 2012 - December 2012.
Golomb Assistant Professor of Mathematics, Purdue University. August 2009 - May 2012.

Grants, Fellowships, Awards - recent

NSF Grant DMS-2453797, July 2025 - July 2028, (Higher Dimensional Dynamics \$199,758).
NSF Conference Grant DMS-2318316, September 2023 - August 2026, (Young Mathematicians Conference \$64,838).
NSF Conference Grant DMS-2246362 for 'Complex Analysis and Geometry', June 2023, co-PI, with T. Darvas.
Summer Research in Mathematics, Mathematical Sciences Research Institute, Berkeley, with P. Gupta and L. Vivas.
Research in Pairs, Mathematisches Forschungsinstitut Oberwolfach, with L. Lanzani, P. Gupta, and L. Vivas, cancellation due to Covid pandemic.
NSF Grant DMS-1916606, August 2019 - August 2022 (Young Mathematicians Conference \$140,000).
NSF Grant DMS-1800777, July 2018 - June 2022 (Holomorphic Dynamics \$151,890).
Featured on Lathisms 2017, featuring the research and mentoring contributions of Latin@s and Hispanics in different areas of the Mathematical Sciences.

Publications and Preprints

- (1) *An arithmetic approach to parabolic multiplicity in complex dynamics.*
With Xavier Buff and Valentin Huguin. At arxiv:2608.20008.
- (2) *A Non-Autonomous Model for Parabolic Implosion.*
With Katelynn Huneycutt and Samantha Sandberg-Clark. At arxiv:2601.16311.
- (3) *On the dimension of bundle-valued Bergman spaces on compact Riemann surfaces.*
With A-K. Gallagher and P. Gupta. **Indiana Univ. Math. J.** Vol. 73, 2024, 1541–1549.
- (4) *On the dimension of Bergman Spaces on $\mathbb{P}^1$.*
With A-K. Gallagher and P. Gupta. **La Mathematica** Vol. 1, 2022, 666–684.
- (5) *Stable manifolds of biholomorphisms in $\mathbb{C}^n$ asymptotic to formal curves.*
With L. López-Hernanz, J. Ribón, F. Sanz-Sánchez. **Proc. Lon. Math. Soc.** Vol. 125, 2022, no. 2, 277–317.

- (6) *Hardy Spaces for a Class of Singular Domains.*
With A-K. Gallagher, P. Gupta and L. Lanzani. **Math.Z.** Vol. 299 (2021), no. 3–4, 2171–2197.
- (7) *Non-autonomous Parabolic Bifurcation.*
Proc. Amer. Math. Soc. Vol. 148, 2020, no. 6, 2525–2537.
- (8) *Local dynamics of parabolic skew-products.*
Revista Pro Mathematica Vol. 31, 2020.
- (9) *Parametrization of unstable manifolds for parabolic skew-products.*
Complex Anal. Synerg. Vol. 4, 2018, no. 4, pp1–12.
- (10) *A polynomial skew-product with a wandering Fatou-disk.* With Han Peters.
Math Z., Vol. 283, 2016, no. 1-2, 349–366.
- (11) *Basins of attraction of automorphisms in $\mathbb{C}^3$.* With Berit Stensønes.
Ergodic Theory Dynam. Systems. Vol. 34, 2014, no. 2, pp. 689–692.
- (12) *Bounding the rank of positiver hermitian forms and rigidity for CR mappings of hyperquadrics.*
With Jiri Lebl and Dusty Grundmeier.
Math. Ann. Vol. 358, 2014, no. 3–4, pp. 1059–1089.
- (13) *Dynamics of Two-Resonant Biholomorphisms.* With Jasmin Raissy.
Math. Res. Lett., Vol. 20, 2013, no. 4, pp. 757–771.
- (14) *Geodesics in the space of Kähler metrics.* With László Lempert.
Duke Math. J., Vol. 162, 2013, no. 7, pp. 1369–1381.
- (15) *Degenerate characteristic directions for maps tangent to the identity.*
Indiana Univ. Math. J., Vol. 61, 2012, no. 6, pp. 2019–2040.
- (16) *Fatou-Bieberbach domains as basins of attraction of automorphismsw tangent to the identity.*
J. Geom. Anal., Vol. 22, 2012, no. 2, pp. 352–382.
- (17) *A Survey of non-autonomous basins in several complex variables.*
With A. Abbondandolo, L. Arosio, J.E. Fornæss, P. Majer, H. Peters and J. Raissy. Preprint
available at <https://arxiv.org/abs/1311.3835>.
- (18) *Fatou-Bieberbach domains associated to maps tangent to the identity,*
Ph.D. Thesis: University of Michigan.
- (19) *Remarks on automorphisms of $\mathbb{C}^* \times \mathbb{C}^*$ and their basins.*
Complex Var. Elliptic Equ., Vol. 54, 2009, no. 3–4, pp. 401–407.
- (20) *Attracting Basins of Volume Preserving Automorphisms of $\mathbb{C}^k$.*
With Han Peters and Erlend Fornæss Wold.
Internat. J. Math., Vol. 19 (7), 2008, no. 7, pp. 801–810.

Conferences Organizer - recent

Co-organizer of ‘Collaborative Workshop in Several Complex Variables’, IAS, Princeton, June 2026.
 Co-organizer of ‘Recent developments on the d-bar equation, complex dynamics and holomorphic mappings’, Oslo, December 2023.
 Co-organizer of AWM STEM Symposia, Portland, October 2023.
 Main organizer of ‘YMC - Young Mathematicians Conference’, Ohio State University, Columbus, OH, August 2022 and August 2023.
 Co-organizer of ‘Conference: Complex Analysis and Geometry’, Budapest, Hungary, June 2023.
 Co-organizer of ‘2023 Midwest Several Complex Variables Conference’, April 2023 at Ohio State University.
 Main organizer of ‘YMC - Young Mathematicians Conference’, Ohio State University, Columbus, OH, August 2021, 2020, Virtual.
 AMS Special Session on Women in Several Complex Variables at the Joint Mathematical Meetings JMM 2020, Denver, Colorado, January 2020.
 YMC - Young Mathematicians Conference, Ohio State University, Columbus, OH, August 2019.

AIM Workshop on Problems on Holomorphic Functions Spaces and Complex Dynamics, San Jose, California, April 2019.

AMS Sectional Meeting Special Session on Several Complex Variables at Ohio State University, Columbus, March 2018.