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RESEARCH INTERESTS

- Complex and Non-Archimedean Dynamics.
- Complex and Algebraic Geometry.
- Pluripotential Theory and Several Complex Variables.
- Applications of these fields to Mathematical Physics, Partial Differential Equations and Statistics.

EDUCATION

- **Ph.D. in Mathematics**, Indiana University Bloomington, June 2012.
Dissertation: *Pullback of currents by meromorphic maps*.
Advisor: Eric Bedford.

ACADEMIC APPOINTMENTS AND UNIVERSITY TEACHING EXPERIENCE

- **Philip T. Church Postdoc**, Syracuse University: August 2012–present.
MAT 285 and MAT 286 *Calculus for the Life Sciences I and II*, Fall 2013.
MAT 485 *Differential Equations and Linear Algebra*, Spring 2013 (2 sections).
MAT 485 *Differential Equations and Linear Algebra*, Fall 2012 (2 sections).
- **Associate Instructor**, Indiana University Bloomington, June 2007– June 2012.
Math Learning Center, Summer I, 2012 (tutor section).
M118 *Finite Mathematics*, Summer I, 2011.
M212 *Calculus 2*, Spring 2011 (2 recitation sections).
M211 *Calculus 1*, Fall 2010 (3 recitation sections).
- **Teaching Assistant**, Department of Applied Mathematics, Faculty of Applied Sciences, University of Technology, Ho Chi Minh City, Vietnam, 2004–2005.
- **Teaching Assistant**, Department of Mathematics, University of Science, Ho Chi Minh City, Vietnam, 2003–2005.

INVITED POSITIONS

- **Invited Professor**, Department of Mathematics, *University of Paris 6*, 10 June - 10 July 2013.
- **Invited Research Scholar**, Department of Mathematics, *University of Paris 6* (December 2011, April 2012, June 2012), *University of Paris 11* (July 2011).

SELECTED HONORS AND AWARDS

- The results in my papers (1), (2) and (3) below (joint with Fabrizio Catanese and Keiji Ogus) will be presented in the invited talk of my coauthor Keiji Ogus at the **International Congress of Mathematicians**, Korea, August 2014.
- Invited to attend the *Symposium on Complex Analysis and Complex Dynamics*, **Tsinghua Sanya International Mathematics Forum**, China, May 2014.
- Invited to talk at the *Algebraic Geometry Symposium in Kinokuniya*, Japan, October 2013.
- *Sophie Germain International postdoctoral scholarship*, **Fondation Mathématiques Jacques Hadamard**, Fall 2012–up to two years. Award was declined.
- *Young Talent Attraction postdoctoral scholarship*, **Brazilian federal government**, Fall 2012–up to three years. Award was declined.
- *Dissertation year research fellowship*, **College of Arts and Sciences**, Indiana University Bloomington (IUB), academic year 2011-2012.
- *Outstanding graduate student*, **Department of Mathematics**, IUB (2011, 2008).

- *First year outstanding student*, **Department of Mathematics**, IUB, 2007.
- *Outstanding scholastic achievement on the Tier 1 examination*, **Department of Mathematics**, IUB, 2007.
- *Hazel King Thompson fellowship*, **Department of Mathematics**, IUB, academic year 2006-2007.
- *Travel Awards*
 - **College of Arts and Sciences**, IUB, November 2010.
 - **Mathematical Association of America**, August 2010.
 - **Department of Mathematics**, IUB, 2007.

TALKS AT CONFERENCES AND SEMINARS

- **Conference talks.**
 - *Algebraic Geometry Symposium in Kinoshita*, Japan, October 2013.
 - *AMS special session on Complex Dynamics*, Joint Mathematics Meetings, San Diego, January 2013.
 - *Semi-annual Workshop in Dynamical Systems and related topics*, Pennsylvania State University, October 2012.
 - *Special section on Complex Analysis and Dynamical Systems*, AMS regional meeting, University of Notre Dame, November 2010.
 - Poster presentation, *MathFest*, Pittsburgh, Pennsylvania, August 2010.
 - Short presentation, *RTG workshop on Complex Dynamics*, University of Michigan at Ann Arbor, December 2009.
- **Selected seminar talks.**
 - *Algebraic Geometry Seminar*, Osaka University, Japan, October 2013.
 - *Analysis Seminar*, Syracuse University (September 2013, April 2013, October 2012).
 - *Complex Geometry Seminar*, Johns Hopkins University, April 2013.
 - *Several Complex Variables Seminar*, University of Michigan at Ann Arbor, January 2013.
 - *Dynamics Seminar*, Cornell University, November 2012.
 - *Dynamical Systems Seminar*, Indiana University - Purdue University at Indianapolis (January 2012, April 2010).
 - *Complex Analysis Seminar*, Indiana University Bloomington, March 2010.

SELECTED PUBLICATIONS

(all papers are downloadable from my web page <https://tutruong.expressions.syr.edu/>)

Automorphisms of positive entropy + (Uni)rational varieties.

- (1) With Fabrizio Catanese and Keiji Oguiso, *Unirationality of the Ueno-Campana's threefold*. Preprint arXiv: 1310.3569.
 - This solves a question on the unirationality of a finite quotient of a projective 3-torus (which was proved to be rationally connected in 2012 by Frederic Campana), posed in 1975 by Kenji Ueno.
- (2) With Keiji Oguiso, *Salem numbers in dynamics of Kähler 3-folds and complex tori*. Submitted for publication, preprint arXiv: 1309.4851.
 - This paper shows that an automorphism of a complex 3-tori having $\lambda_1(f) = \lambda_2(f) > 1$ preserves a non-trivial holomorphic fibration iff $\lambda_1(f)$ is a Salem number.
- (3) With Keiji Oguiso, *Explicit examples of rational and Calabi-Yau threefolds with primitive automorphisms of positive entropy*. Submitted for publication, preprint arXiv: 1306.1590.

- This gives, for the first time, examples of automorphisms of rational 3-folds which do not preserve any non-trivial meromorphic fibrations.
- (4) *On automorphisms of blowups of projective manifolds*. Submitted for publication, preprint arXiv: 1301.4957.
- (5) *On automorphisms of blowups of \mathbb{P}^3* . Submitted for publication, under review in Journal of Differential Geometry since March 2012, preprint arXiv: 1202.4224.
 - There is probably no iterated blowup of \mathbb{P}^3 having automorphisms of positive entropy (the existence of one such example was asked by Eric Bedford in 2011).

Equidistribution of isolated periodic points.

- (6) With Tien-Cuong Dinh and Viet-Anh Nguyen, *Equidistribution for meromorphic maps with dominant topological degree*. Submitted for publication, preprint arXiv: 1303.5992.

Dynamical degrees.

- (7) *The simplicity of the first spectral radius of a meromorphic map*. This paper was divided into two parts. Part 1: accepted in **Michigan Journal of Mathematics** (pending minor revision). Part 2: submitted for publication. Preprint arXiv: 1212.1019.
 - The first part of the paper solves a question posed in 2004 by Vincent Guedj. The second part gives a purely algebraic method to define dynamical degrees. This algebraic method has applications to dynamics on Berkovich analytic spaces.
- (8) With Tien-Cuong Dinh and Viet-Anh Nguyen, *On the dynamical degrees of meromorphic maps preserving a fibration*, **Communications in Contemporary Mathematics** 14, 1250042, 2012.
 - This paper gives criteria to detect whether a meromorphic map has a non-trivial invariant meromorphic fibration.
- (9) *Degree complexities of birational maps related to matrix inversions: Symmetric case*, **Mathematische Zeitschrift** 270 (2012), no 3–4, 725–738.
- (10) With Eric Bedford, *Degree complexities of birational maps related to matrix inversion*, **Communications in Mathematical Physics** 298 (2010), no. 2, 357–368.
- (11) *Degree complexity of a family of birational maps: II. Exceptional cases*, **Mathematical Physics, Analysis and Geometry** 12 (2009), no 2, 157–180.
- (12) With Eric Bedford, Kyounghee Kim, Nina Abarenkova, and Jean-Marie Maillard, *Degree complexity of a family of birational maps*, **Mathematical Physics, Analysis and Geometry** 11 (2008), no 1, 53–71.

Positive closed currents and Pullback by meromorphic maps.

- (13) With Dan Coman, *Geometric properties of upper level sets of Lelong numbers on projective spaces*. Submitted for publication, preprint arXiv: 1305.0864.
- (14) *Some dynamical properties of pseudo-automorphisms in dimension 3*. **Transactions of the American Mathematical Society**, accepted. Preprint arXiv: 1304.4100.
- (15) *Pullback of currents by meromorphic maps*, **Bulletin de la Société Mathématique de France**, accepted. Preprint arXiv: 1107.1743.

Analytic functions, Plurisubharmonic functions, and Applications.

- (16) With Dang Duc Trong, Cao Xuan Phuong, and Dinh Ngoc Thanh, *Tikhonov's regularization to deconvolution problem*, **Communications in Statistics: Theory and Methods**, accepted.

- (17) With Dang Duc Trong, Alain Pham Ngoc Dinh, and Phan Thanh Nam, *Determination of the body force of a two dimensional isotropic elastic body*, **Journal of Computational and Applied Mathematics** 229 (2009), 192–207.
- (18) *Sets non-thin at ∞ in \mathbb{C}^m* , **Journal of Mathematical Analysis and Applications** 356 (2009), no 2, 517–524.
- (19) With Dang Duc Trong, *The growth at infinity of sequences of entire functions of bounded orders*, **Complex Variables and Elliptic Equations**, Vol 53 (2008), No 8, 717–743.

SELECTED WORKS IN PROGRESS

- (1) With Charles Favre, *Topological entropy of endomorphisms over non-Archimedean fields*. Preliminary report, July 2013.
- (2) With Tien-Cuong Dinh and Viet-Anh Nguyen, *Number of isolated periodic points of meromorphic maps*. Preliminary report, June 2013.
- (3) With Muhammed Alan, *Monge-Ampere equations with singular right hand side*.

PROFESSIONAL SERVICE

- Referee for International Mathematical Research Notices, Mathematische Zeitschrift, Acta Mathematica Scientia.
- Review for Mathematical Reviews, Zentralblatt Math Database.
- Helped to organize and attended the Graduate Student Seminar in Several Complex Variables, Syracuse University, Fall 2012 and Spring 2013.
- Organized the Mathematical Summer Meeting, HCM University of Science, Vietnam, 2008.
- Organized the Algebra Graduate Student Seminar, Indiana University Bloomington, Summer 2007.

PROFESSIONAL MEMBERSHIP

- American Mathematical Society