

## CURRICULUM VITAE

**Luís R. A. Finotti**

### Address

Dept. of Mathematics  
University of Tennessee  
1403 Circle Drive  
Knoxville, TN 37922

**Phone:** (865) 974-1321  
**Fax:** (865) 974-6576  
**e-mail:** [finotti@math.utk.edu](mailto:finotti@math.utk.edu)  
**home page:** <http://www.math.utk.edu/~finotti/>

### Research Interests

Algebraic Number Theory and Arithmetic Algebraic Geometry:

- canonical and minimal degree liftings of curves and their applications to coding theory;
- arithmetic of elliptic curves and Abelian varieties;
- $p$ -adic and local fields;
- applications to coding theory and cryptography;
- computational aspects.

### Appointments

- **Assistant Professor.** University of Tennessee. Since 08/06.
- **Visiting Assistant Professor.** Ohio State University. From 09/04 to 06/06.
- **Visiting Assistant Professor.** University of California, Santa Barbara. From 09/01 to 07/04.
- **Assistant Instructor.** University of Texas at Austin. From 09/00 to 08/01.

### Education

- **B.S. (Mathematics)**  
University of São Paulo (Brazil). From 03/91 to 11/94.
- **M.S. (Mathematics)**  
University of São Paulo (Brazil). From 03/95 to 02/97.
- **Ph.D. (Mathematics)**  
University of Texas at Austin. From 09/97 to 08/01. (Advised by J. F. Voloch.)

### Financial Supports and Fellowships

- **Scientific Initiation Fellowship:** From 05/93 to 11/94. Funds from FAPESP (Foundation of Support to Research of the State of São Paulo).
- **Master Fellowship:** From 03/95 to 02/97. Funds from FAPESP.
- **Ph.D. Fellowship:** From 09/97 to 08/01. Funds from CAPES (Brazilian government institution).
- **Bruton Fellowship** for the academic year of 2000/2001. Funds from the University of Texas at Austin.

## Projects and Dissertations

- **Scientific Initiation Project:** detailed analysis of Gauss’s “*Disquisitiones Generales circa Superficies Curvas*”.
- **Master Dissertation:** “*The Absolute Hilbert Class Field of Quadratic Imaginary Extension*”.
- **Ph.D. Thesis:** “*Canonical and Minimal Degree Liftings of Curves.*”

## Publications

- “*Degrees of the Elliptic Teichmüller Lift*”. *J. Number Theory*, 95:123–141, 2002.
- “*Minimal Degree Liftings of Hyperelliptic Curves*”. *J. Math. Sci. Univ. Tokyo*, 11:1–47, 2004.
- “*Minimal Degree Liftings in Characteristic 2*”. *J. Pure Appl. Algebra*, 207:631–673, 2006.
- “*A Formula For the Supersingular Polynomial*”. *Acta Arith.*, 139(3):265–273, 2009.
- “*Lifting the  $j$ -Invariant: Questions of Mazur and Tate*”. *J. Number Theory*, 130(3):620–638, 2010.
- “*Computations with Witt Vectors of Length 3*”. *J. Théor. Nombres Bordeaux*, 23(2):417–454, 2011.
- “*Computations with Witt Vectors and the Greenberg Transform*”. Submitted.
- “*Nonexistence of Pseudo-Canonical Liftings*”. To appear at the “International Journal of Number Theory”.
- “*Coordinates of  $j$ -Invariant of the Canonical Liftings*”. Submitted.

## Conferences Attended

- **1999 Arizona Winter School:** “Local-to-Global Principles in Arithmetical Algebraic Geometry”  
Presented part of the students project “Application of the method of Coleman and Chabauty.”
- **2000 Arizona Winter School:** “Topics in the Arithmetic of Function Fields”
- **Aspects of Algebraic Geometry and Commutative Algebra.** May 18-20, 2000 at Texas A&M University.
- **2001 Arizona Winter School:** “Modular Forms”
- **2002 Arizona Winter School:** “Periods”
- **2003 Arizona Winter School:** “Logic and Number Theory”
- **Third CICMA-CRM Far Hills Workshop:** “ $L$ -functions and  $p$ -adic cohomology: computational perspectives”  
January 02-04, 2004 in Val-Morin, Québec (Canada)
- **Joint Mathematics Meeting.** January 07-10 2004 in Phoenix, AZ.
- **2006 Arizona Winter School:** “Computational and Algorithmic Aspects of Algebra and Arithmetic”
- **Palmetto Number Theory Series I:** December 9-10 2006, at the University of South Carolina
- **2007 Arizona Winter School:** “ $p$ -adic Geometry”
- **2008 Arizona Winter School:** “Special Functions and Transcendence”
- **Number Theory as an Applied and Experimental Science.** Thematic semester at the Centre de Recherches Mathématiques (Montreal, Canada). From January to May 2010.
- **Palmetto Number Theory Series XVI:** September 10-11 2011, at the Emory University

## Talks

- **1997 to 2001:**
  - *University of Texas at Austin*: “Number Theory Seminar” and “Graduate Number Theory Seminar”.
  - *University of California Santa Barbara*: “Arithmetic and Geometry Seminar”.
- **2002:**
  - *University of California Santa Barbara*: “Arithmetic and Geometry Seminar”.
  - *University of Texas at Austin*: “Number Theory Seminar” (as invited speaker)
  - *University of São Paulo* (Brazil)
  - *University of São Paulo and University of São Paulo at São Carlos* (Brazil)
- **2003:**
  - *University of California Santa Barbara*: “Arithmetic and Geometry Seminar”.
  - *AMS Sectional Meeting* in Boulder, CO. Special session: “Applications of Number Theory and Algebraic Geometry to Coding”.
- **2004:**
  - *University of Nebraska Lincoln*
  - *University of Wyoming*
  - *Ohio State University*: “Number Theory Seminar”.
- **2005:**
  - *AMS Sectional Meeting* in Santa Barbara, CA. Special session “Arithmetic Geometry”.
- **2006:**
  - Colloquium talk at the University of Tennessee.
- **2007:**
  - *Junior Colloquium Talk* for undergraduates at the *Univ. of Tennessee*: Applications of Number Theory in Cryptography.
- **2008:**
  - *Palmetto Number Theory Series V*, at Furman University, SC.
  - Colloquium talk at the University of Tennessee.
  - *Palmetto Number Theory Series VIII*, at University of South Carolina.
- **2010:**
  - *Counting Points: Theory, Algorithms and Practice*, at the Centre de Recherches Mathématiques.
  - *Palmetto Number Theory Series XV*, at Clemson University.
- **2011:**
  - *Algebra Seminar* at Emory University.

## Teaching

- **Courses taught at UCSB:**
  - M34A and M34B – Calculus for Social and Life Sciences (2 quarter sequence)
  - M3A, M3B, M3C – Calculus for Engineering and Natural Sciences (3 quarter sequence)
  - M5B – Multivariable Calculus
  - M5H – Honors Calculus
  - M103 – Introduction to Group Theory
  - M116 – Combinatorial Analysis
  - M137A – first quarter of Graph Theory

- **Courses taught at Ohio State University:**
  - Math 151 – Calculus and Analytic Geometry I
  - Math 366, 566 – Discrete Mathematical Structures I and II
  - Math 772 – Graduate Abstract Algebra III (Field Theory)
  - *Ross Program*, as an assistant instructor. (See <http://www.math.ohio-state.edu/ross/>).
- **Courses taught at the University of Tennessee:**
  - First Year Studies 129 – Mathematics of Finances
  - Math 141 – Calculus I
  - Math 251 – Matrix Algebra I
  - Math 300 – Introduction to Abstract Mathematics
  - Math 351 – Algebra I
  - Math 455, 456 – Abstract Algebra I and II
  - Math 551, 552 – Modern Algebra I and II (Graduate)
  - Math 555, 556 – Number Theory I and II (Graduate)
  - Project GRAD Summer Institute (a program for high school students of areas of lower income): 2008, 2009, 2010, 2011 – Algebra II.
  - Research Experience for Undergraduates 2008. (Co-advisor of project on factorization of tetranomials over  $\mathbb{F}_3$ .)
- **Theses and Dissertations Directed**
  - “*On Cyclotomic Primality Tests*”, master thesis by T. Boucher, 2011.

### Computer Skills

MAGMA, Sage, PARI-GP, Mathematica, L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>, HTML, PHP, Python, Shell Scripting, Linux.

### Membership in Professional Societies

Member of the *American Mathematical Society* since 1998.

### Personal Data

Born March 30, 1973, in Uberlândia, MG, Brazil.

US Permanent Resident.