

# CURRICULUM VITAE

VICENȚIU PAȘOL

- Education:**
- Boston University, Ph.D. in Mathematics: May 2005
  - Universitatea Bucuresti, M.S. in Algebra and Number theory, 1999
  - Universitatea Bucuresti, B.A., 1997

- Employment:**
- Institute Of Mathematics Of Romanian Academy, Scientific Researcher, 1999-present
  - University of Connecticut, Assistant professor, Aug 2007-Aug-2008
  - Max-Plank Institute for Mathematics, Visitor Researcher, March 2007-Aug 2007, Feb 2011, Oct, 2013
  - Northwestern University, Visitor Lecturer, Sept 2006-March 2007
  - Centre de Recherche Mathematiques a Montreal, Visitor, Sept-Dec 2005
  - Boston University, Lectureship Assistant, Jan-May, 2006
  - Polytechnic University Of Bucharest, Assistant Professor, 1997-1998

- Teaching Experience:**
- Scoala Normala Superioara Bucuresti:
    - Spring 2013 *Introduction to the theory of  $(\phi, \Gamma)$ -modules* (Series of lectures given by Laurent Berger)
    - Fall 2012
    - Spring 2011
    - Fall 2010
    - Fall 2009
  - Boston University:
    - *Linear Algebra*, Lecturer, Spring, 2006
    - *Statistics I*, TF, MA115, Fall 2004
    - *Applied Mathematics*, TF, MA120, Fall 2004
    - *Calculus II*, Teaching, MA124, Summer I, 2004
    - *Calculus II*, TF, MA124, Spring 2004
  - PROMYS:
    - Teacher Councilor for five years: 2001, 2002, 2003, 2004, 2005



· Lab Counselor for three years: 2001(*Generalized Fibonacci numbers*), 2002(*Modular Graphs*), 2003(*Continued Fractions*).

· Polytechnic University Of Bucharest, *Linear Algebra*, 1997- 1998

**Research Interest:**

Algebraic-geometry and analytic number theory

Cohomology theory on Arithmetic varieties.

$p$ -adic distributions and modular symbols

$p$ -adic Galois representations

$p$ -adic interpolation of special values (of arithmetic  $L$ -functions)

Reductive groups and homomorphic encryption schemes

**Representation-selection**

Automorphic forms conference, Budapest, Hungary, *Weyl group Multiple Dirichlet Series* 8 September 2022

Ninth Congress of Romanian Mathematicians, Galati, *Structure of finite rings*, July 3, 2019

Radboud University, Netherlands, Geometry Seminar, *Character sums, multiple Dirichlet series and moduli spaces of curves*, 6 December 2017

Aristotle University of Greece, Thessaloniki, Algebra seminar, *Moments of Character Sums and Admissible ( $d$ -) Covers*, Sept. 5, 2017

Univ. Iasi, Geometric and combinatorial methods in number theory, *Moduli space of hyperelliptic curves over finite fields*, June 27-July 1, 2016

Renyi Mathematical Institute of the Hungarian Academy, *Multiple Dirichlet series*, Sept. 1-8, 2014

ICERM, Brown University, Combinatorics, Multiple Dirichlet Series and Analytic Number Theory, *Higher Moments for quadratic Dirichlet series*, April 15-19, 2013

University of Gottingen, Number Theory Seminar, *Eisenstein Identities and  $p$ -Adic deformation*, Nov.18, 2010

IMAR, Selberg Trace Formula seminar, *Trace formulae for Hecke operators*, 2010

Universitat Autònoma de Barcelona, *Modular symbols*, Sept, 2009

University of Connecticut,  *$p$ -adic  $L$ -functions*, 2008

Max Planck Institute, *Universal Modular symbol*, Jul, 2007

University of Illinois at Chicago Number theory Seminar, *Products of Eisenstein series*, 2006

Quebeque-Vermont Number theory Seminar, *Weil representations and the Kronecker- Eisenstein Distribution*, Dec. 2005

CRM, Montreal *Basics on admissibility of Galois representations* Oct. 2005

Boston University, *Algebra and Number Theory Seminar*, Nov. 29<sup>th</sup> 2004

Johns Hopkins University, *Number Theory Seminar*, Nov. 22<sup>nd</sup> 2004

Boston University, *Number Theory Student Seminar* Co-founder, Numerous talks

Massachusetts Institute of Technology, *Number Theory Student Seminar*, Spring 2001

**Conferences :** – *P-adic methods for Galois representations and modular forms*, University of Barcelona, February 11-18, 2017

– *Spectral theory, Automorphic forms and Arithmetic*, University of Copenhagen, November 14-18, 2016

– *p-Adic Deformations*, Boston University, Glenn Steven 60<sup>th</sup> birthday conference, June 1-6, 2014

– *Combinatorics, Multiple Dirichlet Series and Analytic Number Theory*, ICERM, Brown University, April 15-19, 2013

– “*Geometry and arithmetic*” on the occasion of Gerard van der Geer’s 60<sup>th</sup> birthday.-Schiermonnikoog , Nederlands, Sept.20-24, 2010

– *Intersection of Arithmetic Cycles and Automorphic Forms*, CICMA-CRM, December 12-16, 2005.

– *Workshop on the p-adic representations.*, CICMA-CRM, September 12-16, 2005.

– *Eisenstein series and Applications.*, AIM, Palo Alto, August 14-19, 2005.

– *Open Questions and Recent Developments in Iwasawa Theory.*, In honor of Ralph Greenberg’s 60<sup>th</sup> birthday, Boston University, June 13-17, 2005

– *The Lichtenbaum Conjectures: Progress and Prospects.*, In Honor of the 65<sup>th</sup> birthday of Stephen Lichtenbaum, Brown University, March 18-20 2005



– *L-functions and p-adic cohomology: computational perspectives*-CICMA-CRM Far Hills, Jan. 2004

– *Arizona Winter School* 2000, 2001.

– *Abelian Varieties Over Finite Fields*-Anogia, Greece, Aug. 2000

– *Valuation Theory And Related Topics*-IMAR, 1995-1999

**Conference Organizer:**

*Bucharest Number Theory Day 2,3,4,5,6,7,8,9,10,11,12* (Co-organizer with Alina Cojocaru, Alexandru Popa, Adrian Diaconu)

*Galois Representations and Modular Forms*, IMAR, 22-23 August 2016 (Co-organizer with A. Diaconu, A. Popa)

*Workshop on L-functions and Galois Representations*, IMAR, June 19, 2018 (Co-organizer with A. Popa)

- Publications:**
- (a) *Theorems and Problems in classical geometry* (Romanian, with B. Buricea) Ed.Lotus, Craiova, ISBN 973-96010-7-3 ,(150 pages)(1995)
  - (b) *Spectral Norms on valued fields*, with Popescu,N., Popescu,A., *Mathematische Zeitschrift*, 238, 101-114(2001)
  - (c) *Universal triple Massey products on elliptic curves and Hecke's indefinite theta series*, with A. Polishchuk, *Moscow Mathematical Journal*, 5, 443-461(2005)
  - (d) *p-adic Modular Symbols attached to CM-forms*, Thesis, Boston University, May 2005
  - (e) *A Modular Symbol with Values in Cusp Forms* , preprint, arXiv:math/0611704v1
  - (f) *Fusion rings arising from normal Hopf subalgebras*, with S. Burciu, *Algebra and Representation Theory*, volume 14/2011, pag. 41-55
  - (g) *Mod p congruences for cusp forms of weight four for  $\Gamma_0(pN)$* , with M. Barcau, *International Journal of Number Theory* Vol. 07, No. 02, pp. 341-350(2011)
  - (h) *Modular forms and period polynomials*, with A. Popa, *Proc. London Math. Soc.* (2013) 107 (4): pag 713-43.
  - (i) *On the Petersson scalar product of arbitrary modular forms*, with A. Popa, *Proc. Amer. Math. Soc.* 142 (2014), 753-760



- (j) *Pair correlation of angles between closed reciprocal geodesics on the modular surface*, with Florin P. Boca, Alexandru A. Popa and Alexandru Zaharescu, *Algebra and Number Theory*, vol.8, no.4, 2014
- (k) *An algebraic property of Hecke operators and two indefinite theta series*, with A. Popa, *Forum Math.*, vol. 27, No.2(2015), 915-928
- (l) *A study of elliptic gamma function and allies*, with Wadim Zudilin, *Research in the Mathematical Sciences* Vol. 5, (39), 2018, DOI: 10.1007/s40687-018-0158-9
- (m) *Sondow's conjecture, convergents to  $e$ , and  $p$ -adic analytic functions*, with A. Zaharescu, *Mathematische Zeitschrift*, 2019, 292(1-2), pp. 499-511
- (n) *On The Ind-CPA Security Of Ring Homomorphic Encryption Schemes Over  $\mathbb{F}_2$* , with M. Barcau, *Proceedings Of The Romanian Academy Series A-Mathematics Physics Technical Sciences Information Science*, (2020) Vol 21, Issue1, pp 3-10
- (o) *Magnetic (quasi-)modular forms*, with W. Zudilin, *Nagoya Mathematical Journal* 248 (2023), 849-864
- (p) *Computing primitive idempotents in finite commutative rings and applications*, with M. Barcau, *Journal of Symbolic Computations*, Volume 123, July- August 2024, 102294, DOI : 10.1016/j.jsc.2023.102294
- (q) *Quadratic Weyl group multiple Dirichlet series of type  $D_4^{(1)}$*  with A. Diaconu, A. Popa, to appear in *American Journal of Mathematics* (Accepted 12:07:2023)

**Sent for publication:**

- (r) *Moduli of hyperelliptic curves and multiple Dirichlet series*, with A. Diaconu, arXiv:1808.09667
- (s) *Residues of quadratic Weyl group multiple Dirichlet series* with A. Diaconu, B. Ion and A. Popa, arxiv.org/abs/2307.06223
- (t) *Composing Bridges* with M. Barcau, and G. Turcaş, arXiv:2305.16435



**In preparation:**

- (u) *Multiple Dirichlet series for  $a$ -adic Weyl groups* with A. Diaconu, B. Ion and A. Popa
- (v) *A criterion for perfectoid fields* with M. Barcau

**Honors:** "Gheorghe Lazar" Award of the Romanian Academy  
Fulbright Scholar 1999-2005  
Presidential University Graduate Fellowship at Boston University 1999-2000  
Research Assistantship 2000-2003

**Grants:** Explicit Modular Forms and L-Functions, PN-II-RU-PD-2010-4-0243, P.I.  
Galois Representations and Modular Forms, PN-II-RU-TE-2014-4-2077, P.I.

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