CURRICULUM VITAE

Name: Ariel Martín Pacetti

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1 Scientific performance.

1.1 Education:

- Licenciado en Matemática, 1999, Universidad de Buenos Aires, Argentina. (Director: Dr. Fernando Cukierman)
- Ph.D. at the University of Texas at Austin, 18th of August of 2003. (Advisor Dr. Fernando Rodriguez-Villegas).

1.2 Scholarships and Awards:

- Department of Mathematics Fellowship at University of Texas at Austin from June 1999 to January 2000.
- Department of Mathematics Fellowship at University of Texas at Austin from May 2000 to August 2000.
- Professor and Mrs. Hubert S. Wall Endowed Presidential Fellowship in Mathematics at University of Texas at Austin from September 2000 to May 2001.
- Frank Gerth III Dissertation Awards, June 2003.
- CONICET (the national research agency of sciences) Postdoctoral grant from April 2004 to March 2006.
- CONICET grant for young researchers (to visit the Centre de Recerca Matematica, Barcelona) from August 2009 to July 2010.
- Leverhulme Visiting Professor at Warwick University from January 2016 to December 2016 (see official web page).
- Regular Associate of the ICTP (International Center for Theoretical Physics) from January 1st 2019 to December 31st 2024 (see official web page).

1.3 Long Term Research Visits

- From September 2009 to July 2010: a year at the Centre de Recerca Matemática, Barcelona, Spain (participating in the research program Arithmetic Geometry).
- From 1st of January to the 31st of December 2016, University of Warwick as part of the Leverhulme Visiting Professor position.
- From 1st of January to 28th of February 2019 ICTP (international center for theoretical physics), Trieste, as part of the Associate program.

1.4 Research Positions.

- Research group in cryptography at Core-SDI, 1998-1999.
- Graduate Research Assistant, University of Texas at Austin, September 1999 to September 2002.
- Investigador Asistente (assistant researcher) of the CONICET from May 2007 to January 2010 (EXPTE 5560/05).
- Investigador Adjunto (adjoint researcher) of the CONICET from January 2010 to November 2017 (EXPTE 5984/09).
- Investigador Independiente (independent researcher) of the CONICET from November 2017 to February 2020 (EXPTE 7761/16).
- Principal Researcher FCT Scientific Employment Stimulus - 3rd Edition since April 2020, Center for Research and Development in Mathematics and Applications (CIDMA), Department of Mathematics, University of Aveiro.

1.5 Publications:

1. Futoransky, Ariel; Kargieman, Emiliano and Pacetti, Ariel; "An attack on CRC- 32 integrity checks on encrypted channels using CBC and CFB modes". Proceedings DISC'98, Universidad Nacional Autonoma de Mexico (1998).
2. Pacetti, Ariel and Rodriguez-Villegas Fernando, "Computing weight 2 modular forms of level p^2". Mathematics of Computations 74, pp. 1545-1557 (2005).
3. Pacetti, Ariel, "A formula for the central value of certain Hecke L-functions". Journal of Number Theory 113, pp. 339-379 (2005).
4. Avendaño, Martín; Krick, Teresa and Pacetti, Ariel. "Newton-Hensel interpolation lifting". Foundations of Computational Mathematics Vol. 6 Number 1, pp. 82-120 (2006).
5. Pacetti, Ariel and Tornaría, Gonzalo, "Examples of Shimura correspondence for level p^2 and real quadratic twists". Ranks of elliptic curves and random matrix theory, pp. 289-314. London Math. Soc. Lecture Note Ser., 341, Cambridge Univ. Press, Cambridge (2007).

6. Pacetti, Ariel and Tornaría, Gonzalo, "Shimura Correspondence for level p^2 and the central values of L-series". Journal of Number Theory 124, Number 2, pp. 396-414 (2007).

7. Pacetti, Ariel, "On the embedding problem for 2^+S_4 representations". Mathematics of Computations 76, pp. 2063-2075 (2007).

8. Pacetti, Ariel and Tornaría, Gonzalo, "Computing central values of twisted L-series, the case of composite levels". Experimental Mathematics 17, Number 4, pp. 459-471 (2008).

9. Dieulefait, Luis; Guerberoff, Lucio and Pacetti, Ariel, "Proving Modularity for a given elliptic curve over an imaginary quadratic field". Mathematics of Computations 79, Number 270, pp. 1145-1170 (2010).

10. Dieulefait, Luis; Pacetti, Ariel and Schuett Mathias, "Modularity of the Consani-Scholten quintic", With an appendix by José Burgos Gil and Ariel Pacetti. Documenta Mathematica 17, pp. 953-988 (2012).

11. Pacetti, Ariel, "On the change of root numbers under twisting and applications", Proceedings of the American Mathematical Society 141, Number 8, pp. 2615-2628 (2013).

12. Pacetti, Ariel and Sirolli, Nicolas, "Computing ideal class representatives in quaternion algebras", Mathematics of Computations 83, Number 289, pp. 2479-2507 (2014).

13. Pacetti, Ariel and Tornaría Gonzalo, "Shimura Correspondence for level p^2 and the central values of L-series II" International Journal of Number Theory Vol. 10, Number 07, pp. 1595-1635 (2014).

14. Berger, Tobias; Dembélé, Lassina; Pacetti, Ariel and Mehmet Haluk Sengun "Theta Lifts of Bianchi Modular Forms and Applications to Paramodularity", Journal of the London Mathematical Society 92, Number 2, pp. 353-370 (2015).

15. Dieulefait, Luis and Pacetti, Ariel, "Connectedness of Hecke Algebras and the Rayuela conjecture: a path to functoriality and modularity", Arithmetic and geometry, pp. 193–216, London Math. Soc. Lecture Note Ser., 420, Cambridge Univ. Press, Cambridge, (2015).

16. Kohen, Daniel and Pacetti, Ariel, "Heegner points on Cartan non-split curves", Canadian Journal of Mathematics 68, Number 2, pp. 422-444 (2016).

17. Burgos-Gil, José Ignacio and Pacetti, Ariel, "Hecke and Sturm bounds for Hilbert modular forms over real quadratic fields", Mathematics of Computations 86, Number 306, pp. 1949-1978 (2017).

18. Kohen, Daniel and Pacetti, Ariel, "On Heegner points for primes of additive reduction ramifying in the base field", With an appendix by Marc Masdeu, Transactions of the AMS 370, Number 2, pp. 911-926 (2018).

19. Kohen, Daniel and Pacetti, Ariel, "Anticyclotomic p-adic L-functions for elliptic curves at some additive reduction primes", Comptes Rendus Mathematique Académie des Sciences Paris 356, Volume 10, pp. 973-983 (2018).

20. Camporino, Maximiliano and Pacetti, Ariel, "Congruences between modular forms modulo prime powers", Revista Matemática Iberoamericana Volume 34 Number 4, pp. 1609-1643 (2018).

21. Cremona, John and Pacetti, Ariel, "On Elliptic Curves of prime power conductor over imaginary quadratic fields with class number one", Proceedings of the London Mathematical Society 118, Number 5, pp. 1245-1276 (2019).

22. Loeffler, David; Lassina, Dembélé and Pacetti, Ariel, "Non-paritious Hilbert modular forms", Mathematische Zeitschrift 292, Number 1-2, pp.361-385 (2019).

23. Brumer, Armand; Pacetti, Ariel; Poor, Cris; Tornaría, Gonzalo; Voight, John and Yuen, David, "On the paramodularity of typical abelian surfaces", Algebra and Number Theory Volume 13, Number 5, pp. 1145-1195 (2019).

24. Dieulefait, Luis; Pacetti, Ariel and Tsaknias, Paganiotis, "On the number of Galois orbits of newforms", Journal of the European Mathematical Society 23, Number 8, pp. 2833-2860 (2021).

25. Cremona, John; Dembélé, Lassina; Pacetti, Ariel; Schembri, Ciaran and Voight, John, "On rational Bianchi newforms and abelian surfaces with quaternionic multiplication", Arithmetic geometry, number theory, and computation, 343–363, Simons Symp., Springer (2021).

26. Barrera Salazar, Daniel; Pacetti, Ariel and Tornaría, Gonzalo, "On 2-Selmer groups and quadratic twists of elliptic curves", Mathematical Research Letters 28, Number 6, pp. 1633-1659 (2021).

27. Pacetti, Ariel and Villagra-Torcomian, Lucas, "$\mathbb{Q}$-curves, Hecke characters and some Diophantine equations", Mathematics of Computation 91, Number 338, pp. 2817-2865 (2022).

28. Pacetti, Ariel and Villanueva, Angel. "On Galois representations of superelliptic curves", Glasgow Mathematical Journal , Volume 65 , Issue 2 , May 2023 , pp. 356 - 382.

29. Pacetti, Ariel, "An exotic example of a tensor product of a CM elliptic curve and a weight 1 form", Revista de la Unión Matemática Argentina 65 (2023) 225–228.

30. Pacetti, Ariel and Villagra-Torcomian, Lucas, "$\mathbb{Q}$-curves, Hecke characters and some Diophantine equations II", Publicacions Matemàtiques 67(2023), no.2, 569–599.

31. Dieulefait, Luis Victor and Pacetti, Ariel Martín. "A simplified proof of Serre's conjectures", Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas Volume 117, Issue 4 (2023), 117–153.

32. Golfieri, Franco; Pacetti, Ariel and Villagra Torcomian, Lucas. "On the equation $x^2 + dy^6 = z^p$ for square-free $1 \leq d \leq 20$, International Journal of Number Theory 19 (2023), no.5, 1129–1165.

33. Dummigan, Neil; Pacetti, Ariel; Rama, Gustavo and Tornaría, Gonzalo. "Quinary forms and paramodular forms", Mathematics of computations 93 (2024), n.348, 1805–1858.

34. Golfieri, Franco; Pacetti, Ariel and Villagra Torcomian, Lucas. "Asymptotic results for the equation $x^4 + dy^2 = z^p$ and $x^2 + dy^6 = z^p$", to appear in the Revista Matemática Iberoamericana (arXiv:2211.16334).

35. Mayorga Uruburu, Nicolás; Pacetti, Ariel and Vendramin, Leandro. "On computing finite index subgroups of $\mathrm{PSL}_2(\mathbb{Z})$", Journal of Algebra and its Applications 24, N. 9 (2025).

36. Barrera Salazar, Daniel; Pacetti, Ariel and Tornaría Gonzalo. "On the 2-Selmer group of Jacobians of Hyperelliptic Curves", submitted (arXiv:2308.08663).

37. Florit, Enric and Pacetti, Ariel. "K-varieties and Galois representations", submitted (arXiv:2412.03184)

38. Golfieri Madriaga, Franco and Pacetti, Ariel. "Hypergeometric motives and the generalized Fermat equation", submitted (arXiv:2412.08804).

39. Pacetti, Ariel. "On Transformation properties of hypergeometric motives and Diophantine equations", submitted (arXiv:2502.02776)

1.6 Expository articles

1. Pacetti, Ariel, "Shimura Correspondence and central values of twisted L-series". Proceeding of the "Segundas Jornadas de Teoría de Números", Bibl. Rev. Mat. Iberoamericana pp. 221-242 (2008).

2. Pacetti, Ariel, "A tour through some Diophantine equations", CIM Bulletin n. 45, December 2023, 37–43.

1.7 Talks in Conferences:

- Title: Construcción de un retículo de dimensión cuatro que no es proyectivo al mirarlo como módulo sobre su anillo de endomorfismos. LIII Reunión Anual de Comunicaciones Científicas, Unión Matemática Argentina. Held at the Universidad Nacional de Río Cuarto, Córdoba from October 15th to October 17th, 2003.

- Title: Álgebras de cuaterniones y sus aplicaciones a la teoría de números. XII Encuentro Rioplatense de Algebra y Geometría Algebraica, held at the Universidad de Buenos Aires between May 17 and May 21, 2004.

- Title: Una fórmula para el valor central de ciertas L-funciones de Hecke. XVIII Seminari de Teoria de Nombres de Barcelona, held at the Universidad de Barcelona from January 19th to January 23rd, 2004.

- Title: Shimura correspondence for weight 3/2 modular forms and quaternion algebras. Primeras Jornadas de Teoría de Números held at Vilanova i la Geltrú, Barcelona between the 30th of June and the 2nd of July, 2005.

- Title: Formas modulares de peso 1 y representaciones Galoisianas. XVI Coloquio Latinoamericano de álgebra held at Colonia del Uruguay between the 1st and the 9th of August, 2005.

- Title: Formas modulares de peso 3/2 y su relación con las curvas elípticas, Coloquio FAMAF, Universidad Nacional de Córdoba, 1st of November 2005.
- Title: The congruent number problem, an introduction to Number Theory, Coloquio da Universidade de Coimbra, 29th of November 2005.
- Title: Aritmética en Álgebras de Cuaterniones, III Encuentro Nacional de Algebra between the 31st of July and the 5th of August 2006.
- Title: Puntos Racionales en Curvas, Universidad de la República (Uruguay), 30th of September 2006.
- Title: Números congruentes, curvas elípticas y formas modulares, XVI Encuentro Rioplatense de Álgebra y Geometría Algebraica, between the 12th and the 15th of December, 2006.
- Presentation Workshop: L-functions, ranks of elliptic curves and random matrix theory, Banff, Canada, between the 9th and the 13th of July, 2007.
- Title: Correspondencia de Shimura en nivel p^2, Segundas Jornadas de Teoría de Números, Madrid, Spain, between the 16th and the 19th of July, 2007.
- Title: Shimura correspondence and central values of L-series, International conference on the Algebraic and Arithmetic Theory of Quadratic Forms, held at Frutillar, Chile between the 13th and the 19th of December, 2007.
- Title: El sistema criptográfico NERDS, Jornadas de Criptografía y Códigos held at Colonia del Uruguay between the 11th and the 14th of August, 2008.
- Title: Construction of half integral weight modular forms and applications, "Arithmetic Geometry Seminar" at CRM, 15th of October 2009.
- Title: "Representaciones de Galois y Modularidad", Coloquio Universidad Autónoma de Madrid, 30th of April 2010.
- Title: Modularity of the Consani-Scholten quintic, Arithmetic of Modular Forms and Modularity Results held at the Centre de Recerca Matematica (Barcelona) between the 5th and the 9th of July 2010.
- Ttle: Hecke and Sturm bounds for Hilbert modular surfaces,Computations with Modular Forms 2011 hedt at Heidelberg between the 5th and the 8th of September 2011.
- Title: Congruencias entre representaciones de Galois, CLAM 2012, held at Córdoba between the 6th and the 10th of August 2012.
- Title: Proving Modularity of Galois Representations, Number Theory Seminar, University of Warwick, 14th of March 2013.
- Title: Half integral weight modular forms, Explicit Methods for Modular Forms, Warwick University, between the 18th and the 22th of March 2013.

- Title: Computing tables of elliptic curves, FoCM 2014 Conference, Universidad de la República (Uruguay), between the 11th and the 13th of December 2014.
- Title: Computing Elliptic Curves over Number Fields, Explicit Methods in Number Theory, Oberwolfach, between the 5th and the 11th of July 2015.
- Title: On the paramodular conjecture, Modular forms and curves of low genus, ICERM 2015, between the 28th of Septiembre and the 2nd of October 2015.
- Title: Computing tables of elliptic curves over $\mathbb{Q}(i)$, Explicit methods in number theory: congress in honour of Cremona's 60th birthday, Warwick University, between the 4th and the 8th of April 2016.
- Title: Elliptic Curves over PID imaginary quadratic fields, Bianchi modularity workshop, Luxemburgo, between the 11th and the 15th of July 2016.
- Title: Congruences between 2-dimensional Galois representations and applications, Automorphic forms: theory and computations, King's College London, between the 5th and the 9th of September 2016.
- Title: Non-paritious Hilbert Modular Forms, Mathematical Congress of the Americas, between the 24th and the 28th of July 2017.
- Title: Paramodular Conjecture, Primer encuentro conjunto de la Real Sociedad Matemática Española y la Unión Matemática Argentina, between the 11th and the 15th of December 2017.
- Title: On the number of Galois orbits of newforms, 2018 ICM Satellite conference on automorphic forms, galois representations and L-functions, Río de Janeiro, between the 23rd and the 27th of July 2018.
- Title: On the paramodular conjecture, plenary lecture at the octavas jornadas de teoría de números, Vilanova i la Geltrú (Barcelona), between the 25th and the 28th of June 2019.
- Organizer of the research project "Langlands functoriality", at the workshop Number Theory in the Americas, Oaxaca, between the 11th and the 16th of August 2019.
- Title: Computing Paramodular forms using Quinary modular forms, Seminari de Teoria de Nombres de Barcelona 2022, University of Barcelona, between the 31st of January and the 4th of February 2022.
- Title: On 2-Selmer group of elliptic curves, Novenas Jornadas de Teoría de Números, Universidad de La Rioja, between the 28th of June and the 1st of July 2022.
- Title: bounds for the 2-Selmer group of elliptic curves, Primeiro Encontro Português de Teoria dos Números, University of Aveiro, 2nd of November of 2022.
- Title: Zeta function of projective varieties, CMUP seminar, University of Porto, 14th of December of 2022.

- Title: On the 2-Selmer group of Jacobians of hyperelliptic curves, Symposium on Arithmetic Geometry and its Applications, CIRM, Luminy (France), 6th to 10th of February 2023.
- Title: On solutions to $x^4 + dy^2 = z^p$, Representation Theory XVIII, Dubrovnik, Croatia, 18th to 24th of June 2023.
- Title: On the Galois representation attached to the curve $y^6 = x^3(1-x)(1-tx)$, Seminari de Teoria de Nombres de Barcelona 2024, University of Barcelona, between the 5th and the 9th of February 2024.
- Title: On the study of some Diophantine equations, Seminario de Teoría de Números, ICMAT (Madrid), 30th of April 2024.
- Title: Modularity of Varieties and applications, plenary lecture at the XXIV Coloquio Latoniamericano de Álgebra, Pontificia Universidad Católica de Chile, between the 22 and the 26th of July of 2024.
- Title: Galois Representations of Algebraic Hypergeometric Motives, Number Theory session of the XXIV Coloquio Latoniamericano de Álgebra, Pontificia Universidad Católica de Chile, between the 22 and the 26th of July of 2024.
- Title: Funciones Zeta y valores especiales, Colloquium of the CIEM, Universidad Nacional de Córdoba, 29th of July of 2024.
- Title: Funciones Zeta y valores especiales, Colloquium of the Mathematical Department, Universidad de Buenos Aires, 6th of August of 2024.
- Title: Hypergeometric motives and Fermat's generalized equation, Explicit Methods in Number Theory, Obetwolfach, between the 1st and the 6th of September of 2024.
- Title: Computing Paramodular Forms, Murmurations in Arithmetic Geometry and Related Topics, Simons Center for geometry and physics, between the 11th and the 15th of November of 2024.

1.8 Online Talks:

- Title: $\mathbb{Q}$-curvas, modularidad y problemas diofánticos, seminario LATeN, June 18th 2020.
- Title: Modularity of some geometric objects: definitions, reasons and state of the art. ICTP math associates seminar, August 6th 2020.
- Title: $\mathbb{Q}$-curves, Hecke characters and some Diophantine equations. International Seminar on automorphic forms, December 9th 2020.
- Title: On the number of Galois orbits of newforms. Number Theory and Representations in Valparaíso, December 16th 2020.
- Title: Modularity of abelian surfaces. Algebra and Number Theory Seminar, Queen Mary University of London, March 19th 2021.

- Title: $\mathbb{Q}$-curves and some diophantine equations. Number Theory Seminar, ICMAT, April 20th 2021.
- Title: Hecke characters and some diophantine equations. MCA2021 (session Number Theory in the Americas), July 22nd 2021.
- Title: Serre's modular conjecture. CLAM 2021 (session: Number Theory), September 16th 2021.
- Title: Modularity of some geometric objects. Algebra and Number Theory Seminar at Université Laval (Canada), November 5th 2021.

1.9 Funded Research Projects:

- Member of the group "Computational Number Theory", funded by a TARP grant from the City of Austin (09/1999-06/2001).
- Member of PAV 2003 Aplicaciones e integracón interdisciplinaria de la matemática (número 120), subproyecto Geometría Algebraica, Teoría de Números y aplicaciones, funded by the Agencia Nacional de Promoción Científica y Tecnológica.
- Programación Científica UBACYT 2006/2009; Research Project: *Shimura's correspondence for weight 2 modular forms*. Code: X867. Director: Pacetti, Ariel.
- PICT2006 Tipo B (Young Researchers) Code: 312. Research Project: *Shimura's Correspondence*. Director: Pacetti, Ariel.
- Programación Científica UBACYT 2008/2011; Research Project: *Topics con Computational Algebra*. Code: X113. Director: Teresa Krick. Role: researcher.
- PIP 2010-2012, Research Project: *Computational Algebra, Arithmetics and Complexity*. Code: 11220090100801. Director: Teresa Krick.
- PICT-2010-0681 , Research Project: *Computational Algebra, Arithmetics and Complexity*. Director: Teresa Krick. Role: researcher.
- PICT-2013-0294, Research Project: *Computational Algebra and Arithmetic*. Director: Teresa Krick. Role: researcher.
- PICT-2018-02073, Research Project: *Arithmetic Geometry*. Director: Ariel Pacetti.

1.10 Conferences Attended:

- XLVIII Reunión Anual de Comunicaciones Científicas, Unión Matemática Argentina, held at the Universidad del Comahue, Bariloche, September,1998.
- Arizona Winter School 2000. Held at the University of Arizona, Tucson (USA), March, 2000.
- Arizona Winter School 2001. Held at the University of Arizona, Tucson (USA), March, 2001.

- Explicit Methods in Number Theory. Held at the Institut Henri Poincaré, Paris (France) from the 28th of November to the 10th of December, 2005.
- Advance Couse on Shimura Varieties and L-functions, Centre de Recerca Matemática, from the 19th to the 24th of Octobre 2009.
- Autumn School "Towards a p-adic Langlands correspondence", held at the Mathematical Research Institute of the University of Sevilla from the 26th to the 30 of October 2010.
- Workshop "géométrie arithmétique" in honor of Jean-Marc Fontaine, Institute Henri Poincaré, from the 22nd to the 26th of March 2010.

1.11 Conferences Organized:

- "Jornadas de Criptografía y Códigos Autocorrectores", Universidad Nacional de Mar del Plata, 20th to 24th of November 2006.
- Workshop: *Arithmetic of Modular forms and Elliptic Curves*, IMPA, Rio de Janeiro, between the 3rd and the 14th of January 2011.
- Local organizer of AGRA 2018 (school on Arithmetic, Groups and Analysis), held in Córdoba between the 9th and the 20th of July of 2018.
- Member of the scientific committee of the elENA IX, held in La Falda (Córdoba) between the 29th of July and the 2nd of August 2019.
- In April 2020, due to the Coronavirus lock-down, with Ricardo Menares (Pontificia Universidad Católica de Chile) and Gonzalo Tornaría (Universidad de la República, Uruguay) we organized the "Seminario Latinoamericano de Teoría de Números" (LATeN).
- Primeiro Encontro Português de Teoria dos Números, held at the University of Aveiro on the 2nd of November of 2022.
- Second Portuguese Number Theory Meeting, Porto summer school, held at the University of Porto between the 4th and the 8th of September of 2023.
- Thirs Portuguese Number Theory Meeting, held at the University of Aveiro on the 9th of September of 2024.

1.12 Ph.D. committees:

I was a member of the Ph.D. committee of the following students.

- Velásquez Soto, Juan Miguel, thesis title "Retículos en $\mathbb{R}^4$ y el problema del cuantizador óptimo", 18th of December 2012, Universidad Nacional de Córdoba.
- Chara, María, thesis title "Estudio Del Comportamiento Asintótico De Torres De Cuerpos De Funciones", 19th of March 2012, Universidad Nacional del Litoral.
- Walsh, Miguel, thesis title "Teoremas inversos discretos", 2012, Universidad de Buenos Aires.

- Sulca, Diego, thesis title "Funciones zeta de grupos", 26th of August 2015, Universidad Nacional de Córdoba.
- Koutsianas, Angelos, thesis title "Applications of S-unit equations to the arithmetic of elliptic curves", 19th of July 2016, Warwick University.
- Navarro Oyola, Horacio, thesis title "Estudio asintótico de torres y subtorres de cuerpos de funciones", 22nd of February 2018, Universidad Nacional del Litoral.
- Villanueva, Angel Dario, thesis title "Distribución de autovalores de Hecke en cuerpos totalmente reales", 28th of March 2018, Universidad Nacional de Córdoba.
- San Marco, Guillermo, thesis title "Aportes a la clasificación de álgebras de Hopf punteadas de dimensión de Gelfand-Kirillov finita", 11th of March 2020, Universidad Nacional de Córdoba.
- Rama, Gustavo, thesis title "Cálculo de formas paramodulares utilizando formas modulares ortogonales de O(5)", 28th of December 2020, Universidad de la República (Uruguay).
- Green, Holly, "The parity conjecture for hyperelliptic curves", 21st of November 2023, University College London.

2 Academic achievements.

2.1 Teaching Positions.

- Ayudante de Segunda, Universidad de Buenos Aires, 1998-1999.
- Ayudante de Primera con dedicación semi-exclusiva, Universidad de Buenos Aires, February 1999 to June 1999.
- Ayudante con dedicación simple, Universidad de San Andrés, February 1999 to June 1999.
- Ayudante con dedicación simple, Universidad Nacional de General Sarmiento, March 1998 to June 1999.
- Teaching Assistantship, University of Texas at Austin, September 2002 to July 2003.
- Jefe de Trabajos Prácticos (a position between teaching assistant and auxiliary professor) con dedicación exclusiva interino de September 2003 to March 2005.
- Jefe de Trabajos Prácticos con dedicación exclusiva regular desde March 2005 to March 2008 (on license from March 2006 to March 2008).
- Temporary full time Adjoint Professor, from March 2006 to September 2012.
- Regular full time Adjoint Professor at the Universidad de Buenos Aires, since September 2012 to March 2019 (with license since March 2017). The official document is at `http://www.uba.ar/archivos_uba/2012-09-26_5364.pdf`
- Associate Professor at the Universidad de Nacional de Córdoba, from March 2017 to March 2019 (official resolution 70/2017 web page).

- Full Professor at the Universidad Nacional de Córdoba, from March 2019 to February 2020 (resolution code: Res. CD 90/2019).

2.2 Students:

Undergraduate:

- Guerberoff, Lucio. Tesina de Licenciatura: "Teoría de Cuerpos de Clases", February 2007 (Universidad de Buenos Aires).
- Valdettaro, Marcelo. Tesina de Licenciatura: "Elliptic curves over $\mathbb{Q}(t)$ with high rank", November 2008 (Universidad de Buenos Aires).
- Camporino, Maximiliano. Tesina de Licenciatura: "Conjeturas de Serre", March 2011 (Universidad de Buenos Aires).
- Kohen, Daniel. Tesina de Licenciatura: "Puntos de Heegner", March 2013 (Universidad de Buenos Aires).
- Vescovo, Nicolás. Tesina de Licenciatura: "Sumas de cuatro cuadrados y Formas modulares", March 2013 (Universidad Nacional de La Plata).
- Villagra Torcomian, Lucas. Tesina de Licenciatura: "Correspondencia de Langlands en dimensión 1", March 15th 2019 (Universidad Nacional de Cŕdoba).
- Golfieri Madriaga, Franco Anibal. Tesina de Licenciatura: "El Último Teorema de Fermat", March 22nd 2021 (Universidad Nacional de Córdoba).

Graduate:

1. Quattrini, Patricia; Ph.D. co-advisor. Title: "El efecto de la torsión en la distribución de Sha de los twists cuadráticos de una curva elíptica", July 2008.
2. Guerberoff, Lucio; joint with Michael Harris. Ph.D. thesis: "Modularity lifting theorems for unitary groups", 24th of August 2011.
3. Sirolli, Nicolás, Ph.D. thesis: "Cálculo de formas de Hilbert de pesos entero y medio entero", 9th of July 2013.
4. Camporino, Maximiliano; Ph.D. thesis: "Congruences between modular forms modulo prime powers", 11th of December 2015.
5. Kohen, Daniel; Ph.D. thesis: "Construction of Heegner points", 4th of August 2017.
6. Villagra Torcomian, Lucas; Ph.D. thesis: "$\mathbb{Q}$-curvas y caracteres de Hecke en el método modular", 22nd of February 2023.
7. Mayorga Uruburu, Nicolas; Ph.D. thesis: "Diagramas de Arbol en la clasificación de curvas modulares", 30th of April 2025.
8. Golfieri Madriaga, Franco Anibal; Ph. D. student at the Universidade de Aveiro since October 2021 with an FCT grant (expected graduation date: July 2025).

2.3 Short courses:

- Introducción a la Criptografía. LIV Reunión Anual de Comunicaciones Científicas, Unión Matemática Argentina, held at Neuquén between the 11th and the 15th of October, 2004.
- Title: Curvas Elípticas y Criptografía, course given at the FAMAF, Universidad Nacional de Córdoba between the 11th and the 18th of August 2006.
- Introducción a la Teoría de Números. Jornadas de Criptografía y Códigos Correctores, held at Mar del Plata between the 20th and the 24th of November, 2006.
- Elliptic Curves. ElENA IV (encuentro nacional de álgebra), held at La Falda between the 4th and the 9th of August, 2008.
- Formas Modulares: construcción y aplicaciones, AGRA II, 2015 held at Cusco between the 8th and the 22nd of August 2015 (Publicações Matemáticas 42, Unstituto de Matemática Pura e Aplicada, 44–69).
- Representaciones de Galois, AGRA III, 2018, held at Córdoba (Argentina) between the 9th and the 20th of July 2018 (Publicaciones Matemáticas del Uruguay 18(2023) 105–161).

2.4 Advances courses.

I prepared (and lectured) the contents for the following courses:

- *Number Theory*, Universidad de Buenos Aires 2007.
- *Arithmetic of Elliptic curves*, Universidad de Buenos Aires, 2006 and 2014.
- *Quadratic Forms*, Universidad de Buenos Aires, 2008.
- *Computing with Modular Forms*, TCC (tought course center) course (a videoconference course between the Mathematics Departments at the Universities of Bath, Bristol, Imperial, Oxford and Warwick), University of Warwick 2016.
- *Algebraic Curves*, Universidad Nacional de Córdoba, 2018.
- *Grupos e Representações*, Universidade de Aviero, 2023.

2.5 Books

- *Los números, de los naturales a los complejos*, together with Dr. Matías Graña, Dra. Gabriela Jerónimo, Dra. Alejandra Jancsa and Dr. Alejandro Petrovich, Ministerio de Educación, ISBN: 978-950-00-0748-1. Book aimed to high school students, to complement their knowledge on integers, rational numbers, real numbers and complex numbers.

3 Outreach activities:

- Organizer of the "Mathematical week" (a one week activity aimed to high school students), Universidad de Buenos Aires, FCEyN, from the 20th to the 22nd of May 2004.
- Organizer of the "Mathematical week", Universidad de Buenos Aires, FCEyN, from the 17th to the 19th of May 2006.
- Organizer of the "Mathematical week", Universidad de Buenos Aires, FCEyN, from the 2nd to the 4th of May 2007.
- Organizer of the "Mathematical week", Universidad de Buenos Aires, FCEyN, from the 8th to the 11th of April 2008.
- General Audience talk: "Ecuaciones Diofánticas y el Teorema de Fermat", matbaires (a divulging activity organized by the government of the Autonomous City of Buenos Aires), 8th of May 2009.

4 Management tasks

- Member of the departamental council of the Mathematical Department at the Faculty of Sciences at the University of Buenos Aires (Codep) from April 2012 to April de 2014.
- Member of the CIEM (the CONICET research institute in mathematics inside the Universidad Nacional de Córdoba) council since May 2019.
- Member of the Postgraduate studies council of the Faculty of Mathematics, Astronomy and Physics of the Universidad Nacional de Córdoba since March 2019 to March 2021.
- Member of the CONICET mathematical committee (consisting of 10 mathematicians nationwide) that evaluates promotions and recruitments of new researchers of the CONICET during the calendar year 2020.