Richard Paul Gonzales Vilcarromero

<p style="text-align:center">Curriculum Vitae</p>

Mathematisches Institut
Heinrich-Heine-Universität
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Personal:

- **Born:** December 26th, 1981. Lima, Perú.
- **Gender:** Male.

Research Interests:

- **Algebraic geometry and topology:** Equivariant intersection theory, cohomology and K-theory of spherical varieties, in particular, group embeddings. Applications of GKM-theory to the study of reductive monoids and related spherical embeddings.

Education:

- **The University of Western Ontario:** 2007-2011.
  Ph.D in Mathematics, August 2011. Advisor: Lex Renner.
- **The University of Western Ontario:** 2006-2007.
  M.Sc. in Mathematics, August 2007.
- **Instituto de Matemática Pura e Aplicada:** Rio de Janeiro, Brasil, 2004.
  Summer Program.
- **Pontificia Universidad Católica del Perú:** 1999-2006.
  Licenciate in Mathematics. B.Sc. thesis, *Magna Cum Laude*, July 2006.
  B.Sc. in Mathematics, April 2006.

Academic Positions:

- **Heinrich-Heine-Universität Düsseldorf:** DFG Postdoctoral Fellow. May 2014 - September 2015, Düsseldorf, Germany.
- **Institut des Hautes Études Scientifiques:** Visiting Researcher. January 2014 - April 2014, Bures-sur-Yvette, France.
- **Max Planck Institute for Mathematics:** Visiting Researcher. October 2013 - December 2013, Bonn, Germany.
- **Sabancı University:** Visiting Postdoctoral Fellow. January 2013 - September 2013, Istanbul, Turkey.
- **Institut des Hautes Études Scientifiques:** Visiting Researcher. September 2012 -

December 2012, Bures-sur-Yvette, France.

- **Sabancı University:** Lecturer. July 2012 - August 2012. Istanbul, Turkey.

- **Galatasaray University:** Visiting Postdoctoral Fellow. February 2012 - June 2012, Istanbul, Turkey.

- **Boğaziçi University:** Visiting Postdoctoral Fellow. September 2011 - January 2012, Istanbul, Turkey.

TEACHING:

- **Pontificia Universidad Católica del Perú.** Lima, July 2013.
  Mini-course on the geometry of spherical varieties for faculty members and graduate students.

- **Sabancı University.** Istanbul, July - August 2012.
  Instructor for Discrete Mathematics, Summer Term.

- **Mimar Sinan University.** Istanbul, December 2011 to January 2012.
  Mini-course on equivariant group embeddings for graduate students.

- **The University of Western Ontario.** London, Canada. May - June 2011.
  Instructor for Calculus I, Summer Intersession.

- **The University of Western Ontario.** London, Canada. 2006 to April 2011.
  Teaching Assistant. My responsibilities include: running tutorial sessions for Calculus and Linear Algebra, designing quizzes, grading quizzes and exams, replacing the instructor in class.

- **Pontificia Universidad Católica del Perú.** Lima, 2003-2006.
  Teaching Assistant. Led discussion sessions for first-year students in Mathematics for Economists. Grader and Proctor for single and multivariable Calculus.

SCHOLARSHIPS AND AWARDS:

- **Faculty of Science Graduate Student Teaching Award:** The University of Western Ontario, 2010.

- **Carl and Agnes Santoni Graduate Scholarship in Mathematics:** Faculty of Science, The University of Western Ontario, 2007.

- **Western Graduate Research Scholarship:** The University of Western Ontario, 2006-2011.

- **Undergraduate Grant:** Pontificia Universidad Católica del Perú, 2005.

- **Summer Fellowship:** Instituto de Matematica Pura e Aplicada, 2004.

PAPERS PUBLISHED:

- **Equivariant operational Chow rings of T-linear schemes**.
  Documenta Mathematica 20 (2015) 401-432.

- **Poincaré duality in equivariant intersection theory**.
  Pro Mathematica. Vol. 28, No. 56 (2014), 54-80.

- **Rational smoothness, cellular decompositions and GKM theory**.
  Geometry & Topology 18 (2014) 291-326.

Papers submitted:

- **Equivariant cohomology of rationally smooth group embeddings**. 2012.
  Under revision for Transformation Groups.
  http://arxiv.org/abs/1112.1365.
- **Localization in equivariant operational K-theory and the Chang-Skjelbred property**. 2014.
  Max-Planck-Institut für Mathematik Preprint, 2014-20.
  http://arxiv.org/abs/1403.4412.
- **Algebraic rational cells and equivariant intersection theory.** 2014.
  Max-Planck-Institut für Mathematik Preprint, 2014-21.
  http://arxiv.org/abs/1404.2486.

Papers in preparation:

- **Equivariant intersection theory on group embeddings**.
- **Group embeddings, divided differences and Schubert calculus.**

Invited Talks:

- **Equivariant Chow cohomology of spherical varieties.** Seminar of Complex Geometry. Ruhr-Universität Bochum. May 7th, 2015.
- **Understanding algebraic varieties through group actions.** Mathematics Colloquium. Bogazici University. Istanbul, March 4th, 2015.
- **Localization in equivariant operational K-theory and applications.** Algebraic and Tropical Geometry Seminar. Yale University. October 16th, 2014.
- **Poincaré duality in equivariant intersection theory**. Postdoc Seminar. IHES. February 18th, 2014.
- **Equivariant Chow cohomology of spherical varieties.** Max-Planck-Institut für Mathematik, Bonn, December 10th, 2013.
- **Equivariant intersection theory of group embeddings.** AG Düsseldorf-Wuppertal Algebra und Geometrie, HHU Düsseldorf, December 5th, 2013.
- **Equivariant cycles on spherical varieties**. Mimar Sinan University. Istanbul, April 19th, 2013.
- **Aspectos geométricos de las variedades esféricas**. Universidad de Almería, Spain, December 4th, 2012.
- **Equivariant cohomology of spherical varieties**. Geometria em Lisboa. CAMGSD. November 13th, 2012.

- **Equivariant embeddings of algebraic groups**. Postdoc Seminar. IHES, October 1st, 2012.

- **Topological and geometric aspects of algebraic monoids**. General Seminar. Sabanci University. Istanbul, March 27th, 2012.

- **Standard group embeddings and divided differences operators**. Departmental Seminar. Galatasaray University. Istanbul, March 13th, 2012.

- **An Introduction to Equivariant Cohomology**. Departmental Seminar. Bilgi University. Istanbul, November 22nd, 2011.

- **Equivariant cohomology and filtrable spaces**. Geometry and Topology Seminar. Koç University. Istanbul, October 25th, 2011.

- **Rational Smoothness and filtrations of algebraic varieties**. Mathematics Colloquium. Koç University. Istanbul, October 27th, 2011.

- **GKM theory of rationally smooth group embeddings**. METU-Bilkent Algebraic Geometry Seminar. Bilkent University. Ankara, October 21st, 2011.

- **GKM theory and group embeddings**. General Seminar. Institute of Applied Mathematics, Middle East Technical University. Ankara, October 18th, 2011.

- **GKM theory of standard group embeddings**. Research Seminar. Bogazici University. Istanbul, October 12th, 2011.

- **Equivariant cohomology and group embeddings**. Departmental Seminar. Istanbul Technical University. Istanbul, October 7th, 2011.

- **Topology of Group Embeddings**. 8th Annual Graduate Student Topology and Geometry Conference, University of Michigan, Ann Arbor, April 10, 2010.

- **Cohomología Equivariante y Localización.** Conference in Mathematics and Statistics, Pontificia Universidad Católica del Perú. Lima, 13-15 August, 2008.

- **Localization in Equivariant Cohomology and GKM theory**. 2nd. Pure and Applied Mathematics Graduate Student Conference, McMaster University. Hamilton, October 24-26, 2008.

Conferences and Workshops Attended:

- **IMPANGA 15**. April 12 - 18, 2015. Conference Center of IMPAN, Bedlewo, Poland.

- **Conference on the Interaction of Representation Theory with Geometry and Combinatorics**. March 27 - 31, 2015. Hausdorff Center for Mathematics. Bonn.

- **QGM Masterclass: Soergel bimodules and Kazhdan-Lusztig conjectures**. March 18 - 22, 2013. Centre for Quantum Geometry of Moduli Spaces, Aarhus.

- **Category O : geometry and categorification**. December 10 - 14, 2012. Centre International de Rencontres Mathématiques, Luminy.

- **GAeL XX: Géométrie Algébrique en Liberté**. June 18 -22, 2012. Institut Fourier, Grenoble.

- **8th Annual Graduate Student Topology and Geometry Conference**. April 10-11, 2010. University of Michigan, Ann Arbor.

- **Conference in Mathematics and Statistics**. 13-15 August, 2008. Pontificia Universidad Católica del Perú.

- **2nd Pure and Applied Mathematics Graduate Student Conference**. October 24-26, 2008. McMaster University.

- **Workshop on Homological Methods in Representation Theory**. March 31 - April 04, 2008. MSRI, Berkeley.

- **Young persons workshop on String Topology and the Topology of Moduli Spaces**. March 24-27, 2008. Mathematics Research Center, Stanford University.

- **Algebra Summer School**. July 30-August 8, 2007. PIMS, University of Alberta.

- **Workshop: Interactions between Algebraic Geometry and Algebraic Combinatorics**. May 28-June 1, 2007. CRM, University of Montreal.

- **School: Algebraic Geometry and Algebraic Combinatorics.** May 21-25, 2007. CRM, University of Montreal.

SHORT VISITS:

- **Yale University.** USA. October 2014. Invited by Sam Payne.
- **PUCP.** Peru. July 2013. Invited by Jaime Cuadros.
- **Universidad de Almería.** Spain. December 2012. Invited by Blas Torrecillas.
- **CAMGSD.** Portugal. November 2012. Invited by Carlos Florentino.
- **METU**. Ankara. October 2011. Invited by Ersan Akyildiz.

PROFESSIONAL SERVICE:

- Organizer: Graduate Student Seminar, The University of Western Ontario. June 2007 to August 2008. Worked to promote talks aimed at graduate students.

LANGUAGE SKILLS:

- Fluent in Spanish (native language) and English.
- Reading knowledge of French.

REFERENCES:

- **Lex Renner:** The University of Western Ontario, lex@uwo.ca.

- **Michel Brion:** Institut Fourier, Michel.Brion@ujf-grenoble.fr.

- **Nicolas Perrin:** Heinrich-Heine-Universität, Nicolas.Perrin@uni-duesseldorf.de.

- **Mahir Can:** Tulane University, mcan@tulane.edu.

- **Matthias Franz:** The University of Western Ontario, mfranz@uwo.ca

- **Kürşat Aker:** METU (Northern Cyprus campus), kursataker@gmail.com (research/teaching).

- **Andre Boivin:** The University of Western Ontario, boivin@uwo.ca (teaching).