Pablo Sanchez Ocal

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Education

2016–present	**Ph.D. Student, Mathematics**, *Texas A&M University*, TX. Supervisor: Prof. Sarah Witherspoon
2015–2016	**M.Sc., Mathematics**, *Universite Pierre-et-Marie-Curie*, France. Supervisor: Prof. Bruno Kahn
2010–2015	**B.Sc., Mathematics**, *Universitat Autonoma de Barcelona*, Spain. Supervisor: Prof. Jaume Aguade Bover
2010–2015	**B.Sc., Physics**, *Universitat Autonoma de Barcelona*, Spain. Supervisor: Prof. Anna Laromaine

Publications and Preprints

2 **Homotopy liftings and Hochschild cohomology of some twisted tensor products**, with T. Oke and S. Witherspoon, *submitted*.

1 **Gerstenhaber brackets on Hochschild cohomology of general twisted tensor products**, with T. Karadag, D. McPhate, T. Oke, and S. Witherspoon, *submitted*.

Invited Talks

[†]May 2, 2020 **On the Gerstenhaber bracket in relative Hochschild cohomology of associative algebras**, *A Zoom Special Session on DG Methods in Commutative Algebra and Representation Theory*, University of Utah, UT.

[†]May 2, 2020 **On the Gerstenhaber bracket in relative Hochschild cohomology of associative algebras**, *AMS Spring Western Sectional Meeting*, California State University, CA.

Apr 22, 2020 **Structures in Hochschild cohomology**, *MSRI Online Seminar*, Mathematical Sciences Research Institute, CA.

[†]Apr 17, 2020 **Twisted tensor products and brackets in Hochschild cohomology**, *Graduate Student Seminar*, Mathematical Sciences Research Institute, CA.

[†]Apr 11, 2020 **Hochschild Cohomology of Twisted Tensor Product Algebras**, *Graduate Student Topology and Geometry Conference*, Indiana University Bloomington, IN.

[†]Apr 4, 2020 **Hochschild cohomology of twisted tensor products**, *Underrepresented Students in Topology and Algebra Research Symposium*, University of Iowa, IA.

[†]Apr 2, 2020 **Inner workings of the Hochschild cohomology of some twisted tensor products**, *Algebra and Geometry Seminar*, Iowa State University, IA.

Mar 7, 2020 **The Gerstenhaber bracket on relative Hochschild cohomology**, *Southwest Local Algebra Meeting*, Tulane University, LA.

[†]Canceled or hosted online due to COVID-19.

Feb 22, 2020	**On the Hochschild cohomology ring of some twisted tensor products of algebras**, *Seattle Noncommutative Algebra Day*, University of Washington, WA.
Jul 8, 2019	**Hochschild Cohomology of Twisted Tensor Product Algebras**, *Ragnar's Ramifications in Algebra and Geometry Emerging Workshop*, Fields Institute for Research in Mathematical Sciences, Canada.
Jul 4, 2019	**Hochschild Cohomology of Twisted Tensor Product Algebras**, *Research School on Quantum Symmetries*, Universidad de los Andes, Colombia.
Jun 2, 2019	**Hochschild cohomology of twisted tensor product algebras (and brackets for certain quantum complete intersections)**, *Graduate Student Conference in Algebra, Geometry, and Topology*, Temple University, PA.
Apr 6, 2019	**Hochschild Cohomology of Twisted Tensor Product Algebras**, *Texas-Oklahoma Representations and Automorphic Forms*, University of North Texas, TX.
Mar 30, 2019	**Hochschild Cohomology of Twisted Tensor Product Algebras**, *Graduate Student Conference in Geometry and Topology*, University of Illinois at Urbana-Champaign, IL.
Mar 2, 2019	**Twisted tensor product algebras and compatibility of the bar resolution**, *Graduate Algebra Symposium*, University of Oklahoma, OK.
Feb 16, 2019	**An algebraist's view of the multinomial coefficients**, *Gathering in Graduate Expository Mathematics*, Texas A&M University, TX.
Oct 13, 2018	**Relative Hochschild Cohomology and its Gerstenhaber Product**, *Graduate Algebra Symposium*, University of Texas at Arlington, TX.
Apr 21, 2018	**Using Relative Homological Algebra in Hochschild Cohomology**, *Graduate Algebra Symposium*, University of North Texas, TX.
Mar 4, 2018	**Using Relative Homological Algebra in Hochschild Cohomology**, *Gathering in Graduate Expository Mathematics*, Texas A&M University, TX.

Contributed Talks

Aug 19, 2020	**Homotopy liftings and Hochschild cohomology of some twisted tensor products**, *Encuentro Virtual de Algebra Homologica*, Universidad de Buenos Aires, Universidad Nacional de Mar del Plata, Universidad Nacional del Sur, Argentina.
Oct 15, 2019	**Hermitian forms, the spectral theorems, and alternating forms**, *Student Working Seminar in Algebra and Geometry*, Texas A&M University, TX.
Sep 4, 2019	**An overview of Duality**, *Graduate Student Seminar*, Texas A&M University, TX.
Sep 4, 2019	**Functors and multi-functors between semisimple categories**, *Quantum Symmetries Seminar*, Texas A&M University, TX.
Sep 3, 2019	**Matrices, rank, linear maps, and determinants**, *Student Working Seminar in Algebra and Geometry*, Texas A&M University, TX.
Feb 19, 2019	**Open and closed subschemes, open and closed immersions**, *Student Working Seminar in Algebra and Geometry*, Texas A&M University, TX.
Feb 7, 2019	**An introduction to relative homological algebra through group algebras**, *Graduate Student Seminar*, Texas A&M University, TX..

Sep 20, 2018   **An Approach to Determinants**, *Graduate Student Seminar*, Texas A&M University, TX.

Sep 1, 2017   **Hochschild Cohomology**, *Student Working Seminar in Algebra and Geometry*, Texas A&M University, TX.

Sep 6, 2016   **Categories, functors, and natural transformations**, *Student Working Seminar in Algebra and Geometry*, Texas A&M University, TX.

Jul 18, 2016   **A Reading on "Algebraic Coherent Sheaves" by J.-P. Serre**, *M.Sc. defense*, Universite Pierre-et-Marie-Curie, France.

Jul 7, 2015   **Triality: a particularity of Spin(8)**, *B.Sc. defense*, Universitat Autonoma de Barcelona, Spain.

Scholarships and Awards

Spring 2020   **Program Associate**, *for the Quantum Symmetries program*, Mathematical Sciences Research Institute.

Apr 2016   **E. R. Keown Fellow in Mathematics**, *for Ph.D. studies*, Texas A&M University.

Oct 2015   **Fulbright Scholarship**, *for Ph.D. studies in the USA*, Fulbright Program Spain.

Jun 2015   **Beca Posgrado Fundacion Mutua Madrileña**, *for Master studies in France*, Fundacion Mutua Madrileña.

Fall 2012   **Beca JAE Intro**, *selected as the participant of the project Introduction to Ramsey Theory*, Instituto de Ciencias Matematicas.

Oct 2010   **VII concurs pel foment de la recerca EIDEA**, *1st place in the scientific and technology category*, Escola Hamelin-Internacional Laie.

Sep 2010   **Matricula de Honor en Bachillerato**, *covering the first undergraduate year's academic expenses*, Universitat Autonoma de Barcelona.

Jul 2010   **Beca Caixa Catalunya (E2C3 program)**, *selected as participant of the London International Youth Science Forun (LIYSF)*, Imperial College London.

Jun 2010   **Premio Excelencia UIC**, *for placing top 30 in the Excellence UIC exam*, Universitat Internacional de Catalunya.

Jul 2009   **Beca Caixa Catalunya (E2C3 program)**, *selected as part of the project Classic and Quantum Cryptography*, Institut de Ciencies Fotoniques.

Jul 2008   **Beca Caixa Catalunya (E2C3 program)**, *selected as part of the project Mathematics in Unlikely Places*, Planes de Son.

Professional Service

Spring 2020   **Organizer**, *Quantum Symmetries Seminar*, Texas A&M University, TX.

Spring 2020   **Organizer**, *Student Working Seminar in Algebra and Geometry*, Texas A&M University, TX.

2020–present   **Organizer**, *Directed Reading Program*, Texas A&M University, TX.

2020–2021   **Vice-President**, *AMS Chapter*, Texas A&M University, TX.

Spring 2020   **Mentor**, *Directed Reading Program*, University of California Berkeley, CA.

Feb 29, 2020   **Organizer**, *Graduate Algebra Symposium*, University of North Texas, TX.

Spring 2020	**Organizer**, *Student Working Seminar in Algebra and Geometry*, Texas A&M University, TX.
Oct 19, 2019	**Organizer**, *Graduate Algebra Symposium*, Texas A&M University, TX.
Fall 2019	**Mentor**, *Directed Reading Program*, Texas A&M University, TX.
Fall 2019	**Organizer**, *Quantum Symmetries Seminar*, Texas A&M University, TX.
Fall 2019	**Organizer**, *Student Working Seminar in Algebra and Geometry*, Texas A&M University, TX.
Feb 16, 2019	**Organizer**, *Gathering in Graduate Expository Mathematics*, Texas A&M University, TX.
Spring 2019	**Mentor**, *Directed Reading Program*, Texas A&M University, TX.
Spring 2019	**Organizer**, *Student Working Seminar in Algebra and Geometry*, Texas A&M University, TX.
2018-present	**Mentor**, *AWM Chapter Peer Mentoring Program*, Texas A&M University, TX.
Fall 2018	**Organizer**, *Student Working Seminar in Algebra and Geometry*, Texas A&M University, TX.
2018–2019	**Vice-President**, *AMS Chapter*, Texas A&M University, TX.
2017–2018	**IT officer and Webmaster**, *Fulbright Student Association*, Texas A&M University, TX.

Teaching

Spring 2020	**Graduate Teaching Assistant**, *Math 152 (Engineering Mathematics II)*, Texas A&M University, TX.
Summer 2020	**Instructor**, *Math 663 (Algebra Qualifying Exam Preparatory Course)*, Texas A&M University, TX.
Summer 2020	**Teaching Faculty**, *Summer Educational Enrichment in Math*, Texas A&M University, TX.
Fall 2019	**Instructor of Record**, *Math 141 (Finite Mathematics)*, Texas A&M University, TX.
Summer 2019	**Teaching Faculty**, *Summer Educational Enrichment in Math*, Texas A&M University, TX.
Spring 2019	**Graduate Teaching Assistant**, *Math 654 (Algebra II)*, Texas A&M University, TX.
Fall 2018	**Graduate Teaching Assistant**, *Math 653 (Algebra I)*, Texas A&M University, TX.
Fall 2014	**Undergraduate Assistant**, *Foundations of Mathematics*, Universitat Autonoma de Barcelona, Spain.
2008-2015	**Private Tutor**, *high school mathematics and physics, and undegraduate algebra*.

Service

Jul 24, 2020	**Speaker**, *Math Circle*, Bridges to Science, TX.
Apr 15, 2020	**Speaker**, *Math Circle*, Berkeley Math Circle, CA.

Mar 4, 2020	**Volunteer**, *Integral Bee*, Texas A&M University, TX.
Spring 2020	**Volunteer**, *Math Circle*, San Francisco State University, CA.
Nov 16, 2019	**Speaker**, *Math Circle*, Texas A&M University, TX.
Nov 2, 2019	**Speaker**, *Math Circle*, Texas A&M University, TX.
Oct 17, 2019	**Volunteer**, *Derivative Bee*, Texas A&M University, TX.
May 4, 2019	**Speaker**, *Math Circle*, Texas A&M University, TX.
May 4, 2019	**Volunteer**, *Texas Science Olympiad*, Texas A&M University, TX.
2019	**Senator**, *Graduate and Professional Student Government*, Texas A&M University, TX.
Feb 20, 2019	**Panelist**, *First Year Graduate Student Seminar "Choosing an Advisor"*, Texas A&M University, TX.
Feb 2, 2019	**Moderator**, *Regional Science Bowl*, Texas A&M University, TX.
Oct 20, 2018	**Grader**, *High School Math Contest*, Texas A&M University, TX.
Oct 18, 2018	**Volunteer**, *Derivative Bee*, Texas A&M University, TX.
Mar 5, 2018	**Volunteer**, *Integral Bee*, Texas A&M University, TX.
Mar 3, 2018	**Moderator**, *Junior Science Bowl*, Texas A&M University, TX.
Feb 24, 2017	**Volunteer**, *Math and Stat Fair*, Texas A&M University, TX.
Feb 3, 2018	**Scientific Judge**, *Regional Science Bowl*, Texas A&M University, TX.
Oct 22, 2017	**Grader**, *High School Math Contest*, Texas A&M University, TX.
Oct 17, 2017	**Volunteer**, *Derivative Bee*, Texas A&M University, TX.
Sep 27, 2017	**Panelist**, *First Year Graduate Student Seminar "Adjusting to Graduate School"*, Texas A&M University, TX.
Feb 4, 2017	**Participant**, *Graduate and Professional Student Council Interdisciplinary Dinner*, Texas A&M University, TX.
Feb 4, 2017	**Scientific Judge**, *Regional Science Bowl*, Texas A&M University, TX.
Oct 22, 2016	**Grader**, *High School Math Contest*, Texas A&M University, TX.
2016–present	**Volunteer**, *Math Circle*, Texas A&M University, TX.
Apr 9, 2016	**Volunteer**, *1a Semana de la Ciencia de Paris*, Colegio de España, France.
2011–2015	**Volunteer**, *Dissabtes de les Matematiques*, Universitat Autonoma de Barcelona, Spain.

Conferences and Workshops

Aug 19, 2020	**Encuentro Virtual de Algebra Homologica**, *Universidad de Buenos Aires, Universidad Nacional de Mar del Plata, Universidad Nacional del Sur*, Argentina.
Aug 11, 2020	**Operad Pop-Up**, *Twitch.tv*.
†Aug 10, 2020	**Quantum groups, Categorification, Knot invariants, and Soergel bimodules**, *University of Oregon*, OR.
†Jul 6, 2020	**Applied Category Theory**, *Massachusetts Institute of Technology*, MA.
†Jul 5, 2020	**Workshop on Homotopy Type Theory/Univalent Foundations**, *Oxford*, United Kingdom.

†Jun 29, 2020	**Tensor Categories, Quantum Groups and Related Topics**, *University of Nottingham*, United Kingdom.
May 29, 2020	**Cross Atlantic Representation Theory and Other Topics Online**, *University of Michigan*, MI.
May 2, 2020	**A Zoom Special Session on DG Methods in Commutative Algebra and Representation Theory**, *University of Utah*, UT.
†May 2, 2020	**AMS Spring Western Sectional Meeting**, *California State University*, CA.
†Apr 11, 2020	**Graduate Student Topology and Geometry Conference**, *Indiana University Bloomington*, IN.
†Apr 3, 2020	**Underrepresented Students in Topology and Algebra Research Symposium**, *University of Iowa*, IA.
†Apr 2, 2020	**Algebra and Geometry Seminar**, *Iowa State University*, IA.
Mar 25, 2020	**Arithmetic Geometry is Online in Zoom, Everyone**, *University of Georgia*, GA.
†Mar 23, 2020	**(∞, n)-Categories, Factorization Homology, and Algebraic K-Theory**, *Mathematical Sciences Research Institute*, CA.
†Mar 16, 2020	**Tensor Categories and Topological Quantum Field Theories**, *Mathematical Sciences Research Institute*, CA.
†Mar 11, 2020	**Critical Issues in Mathematics Education 2020: Today's Mathematics, Social Justice, and Implications for Schools**, *Mathematical Sciences Research Institute*, CA.
Mar 7, 2020	**Southwest Local Algebra Meeting**, *Tulane University*, LA.
Feb 22, 2020	**Seattle Noncommutative Algebra Day**, *University of Washington*, WA.
Feb 10, 2020	**Introductory Workshop: Higher Categories and Categorification**, *Mathematical Sciences Research Institute*, CA.
Feb 6, 2020	**Connections for Women: Higher Categories and Categorification**, *Mathematical Sciences Research Institute*, CA.
Jan 27, 2020	**Introductory Workshop: Quantum Symmetries**, *Mathematical Sciences Research Institute*, CA.
Jan 23, 2020	**Connections for Women: Quantum Symmetries**, *Mathematical Sciences Research Institute*, CA.
Nov 8, 2019	**Texas Geometry and Topology Conference**, *Texas A&M University*, TX.
Oct 19, 2019	**Graduate Algebra Symposium**, *Texas A&M University*, TX.
Oct 5, 2019	**Texas Algebraic Geometry Seminar**, *Texas A&M University*, TX.
Jul 8, 2019	**Ragnar's Ramifications in Algebra and Geometry Emerging Workshop**, *Fields Institute for Research in Mathematical Sciences*, Canada.
Jun 24, 2019	**Research School on Quantum Symmetries**, *Universidad de los Andes*, Colombia.
Jun 16, 2019	**Commutative Algebra and its Interaction with Algebraic Geometry**, *University of Notre Dame*, IN.
Jun 3, 2019	**Summer Research Program on Quantum Symmetries**, *Ohio State University*, OH.

Jun 1, 2019	**Graduate Student Conference in Algebra, Geometry, and Topology**, *Temple University*, PA.
May 27, 2019	**Homotopy meets Homology**, *Hamilton Mathematics Institute at Trinity College Dublin*, Ireland.
Apr 5, 2019	**Texas-Oklahoma Representations and Automorphic Forms**, *University of North Texas*, TX.
Mar 30, 2019	**Graduate Student Topology and Geometry Conference**, *University of Illinois at Urbana-Champaign*, IL.
Mar 2, 2019	**Graduate Algebra Symposium**, *University of Oklahoma*, OK.
Feb 23, 2019	**Southwest Local Algebra Meeting**, *University of Texas at El Paso*, TX.
Feb 16, 2019	**Gathering in Graduate Expository Mathematics**, *Texas A&M University*, TX.
Feb 8, 2019	**Texas Algebraic Geometry Symposium**, *University of Texas at Austin*, TX.
Jan 16, 2019	**Frobenius Action in Commutative Algebra: Recent Developments**, *Institut de Matematica de la Universitat de Barcelona*, Spain.
Jan 7, 2019	**Categorification in Quantum Topology and Beyond**, *Erwin Schrodinger International Institute for Mathematics and Physics*, Austria.
Nov 3, 2018	**Texas Algebraic Geometry Seminar**, *Texas A&M University*, TX.
Oct 13, 2018	**Graduate Algebra Symposium**, *University of Texas at Arlington*, TX.
Sep 20, 2018	**Quantum Computation and Information Workshop**, *Texas A&M University*, TX.
Jul 26, 2018	**ICM 2018 Satellite Meeting: A Pan-Hemispheric Celebration of Mathematics in Miami**, *University of Miami*, FL.
Jun 14, 2018	**Workshop in Geometric Topology**, *Calvin College*, MI.
May 28, 2018	**Stable Cohomology: Foundations and Applications**, *Snowbird*, UT.
Apr 21, 2018	**Graduate Algebra Symposium**, *University of North Texas*, TX.
Apr 6, 2018	**Texas Algebraic Geometry Symposium**, *Texas A&M University*, TX.
Mar 4, 2018	**Gathering in Graduate Expository Mathematics**, *Texas A&M University*, TX.
Jun 5, 2017	**Research Computing Week**, *Texas A&M University*, TX.
Nov 4, 2016	**Texas Geometry and Topology Conference**, *Texas A&M University*, TX.
Mar 30, 2016	**Seminaire Grothendieck**, *Institut des Hautes Etudes Scientifiques*, France.
Jul 1, 2013	**6a Escuela JAE de Matematicas**, *Instituto de Ciencias Matematicas*, Spain.
Jul 2, 2012	**5a Escuela JAE de Matematicas**, *Instituto de Ciencias Matematicas*, Spain.