José R. Carrión

Curriculum Vitae*

Contact information

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Academic Background

Education

1. Ph.D. in Mathematics, Purdue University, May 2013

2. B.S. in Mathematics, University of Puerto Rico, May 2004

Present rank

Associate Professor

Year of appointment to the University and rank

2015; Assistant Professor

Year of last promotion

2021

Previous teaching and/or research appointments other than TCU

1. 2013–15; The Pennsylvania State University; S. Chowla Research Assistant Professor

2. 2014; University of Copenhagen; Visiting Research Professor

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*Updated: December 15, 2023

Honors and Awards

1. 2017; First time grant recipient award, TCU Office of Research and Office of Sponsored Programs.

2. 2013; Mathematical Sciences Postdoctoral Research Fellowship, National Science Foundation ("to support future leaders in mathematics and statistics by facilitating their participation in postdoctoral research environments that will have maximal impact on their future scientific development")

3. 2012; Purdue Research Foundation Award, Purdue University (for "distinction in research and scholarship")

4. 2003; Francisco Garriga Medal, University of Puerto Rico (awarded to "the most distinguished mathematics major of his or her graduating class")

Research and creative activity

Refereed Publications

1. José R. Carrión and Christopher Schafhauser, *Decomposing nuclear maps,* Münster J. Math. **13** (2020), no. 1, 197–204. MR 4077102.

2. José R. Carrión and Marius Dadarlat, *Almost flat K-theory of classifying spaces,* J. Noncommut. Geom. **12** (2018), no. 2, 407–438. MR 382519.

3. Nathanial P. Brown, José R. Carrión, and Stuart White, *Decomposable approximations revisited,* Operator Algebras and Applications: The Abel Symposium 2015 (Toke M. Carlsen, Nadia S. Larsen, Sergey Neshveyev, and Christian Skau, eds.), vol. 12, Springer, Berlin, 2016, pp. 45–59. MR 3837591.

4. José R. Carrión, Marius Dadarlat, and Caleb Eckhardt, *On groups with quasidiagonal C^*-algebras,* J. Funct. Anal. **265** (2013), no. 1, 135–152. MR 3049883.

5. José R. Carrión and Marius Dadarlat, *Quasi-representations of surface groups,* J. Lond. Math. Soc. (2) **88** (2013), no. 2, 501–522. MR 3106733.

6. José R. Carrión, *Classification of a class of crossed product C^*-algebras associated with residually finite groups,* J. Funct. Anal. **260** (2011), no. 9, 2815–2825. MR 2772352.

7. José R. Carrión and Cornel Pasnicu, *Approximations of C^*-algebras and the ideal property,* J. Math. Anal. Appl. **338** (2008), no. 2, 925–945. MR 2386471.

Preprints and papers under review

1. José R. Carrión and Christopher Schafhauser, *An asymptotic homotopy lifting property,* arXiv:2311.06677 [math.OA], submitted, 2023. (31 pages.)

2. José Carrión, Jorge Castillejos, Samuel Evington, James Gabe, Christopher Schafhauser, Aaron Tikuisis, and Stuart White, *Tracially complete C^*-algebras*, arXiv:2310.20594 [math.OA], submitted, 2023. (130 pages.)

3. José Carrión, James Gabe, Christopher Schafhauser, Aaron Tikuisis, and Stuart White, *Classifying *-homomorphisms I: Unital simple nuclear C^*-algebras,* arXiv:2307.06480 [math.OA], submitted, 2023. (130 pages.)

4. José R. Carrión and Christopher Schafhauser, *A topology on E-theory,* arXiv:2306.13757 [math.OA], submitted, 2023. (30 pages.)

Presentations

1. Mini-course: Twinned Conference on C^*-Algebras and Tensor Categories, The Fields Institute (Toronto), November 6–10, 2023.

2. Special Session on Advances in Operator Algebras, AMS 2023 Fall Central Sectional Meeting, Creighton University, October 8, 2023.

3. Colloquium, University of Nebraska-Lincoln Department of Mathematics, April 14, 2022.

4. Colloquium, York University Department of Mathematics and Statistics, March 18, 2021.

5. Mini-course: Actions of Tensor Categories on C^*-algebras, Institute for Pure & Applied Mathematics (UCLA), January 21, 2021.

6. NSF GOALS (Groundwork for Operator Algebras Lecture Series) 2020, Michigan State University (virtual lecture), July 19, 2020.

7. Symposium on K-theory and non-commutative topology, University of Puerto Rico, September 2020.

8. C^*-algebras and K-theory, University of Hawai'i, December 2, 2019.

9. East Coast Operator Algebras Symposium, Ohio State University, October 12, 2019.

10. BIRS Workshop: Topology and Measure in Operator Algebras, Banff International Research Station, September 9, 2019.

11. The Great Plains Operator Theory Symposium (plenary address), Texas A&M University, May 30, 2019.

12. Symposium on K-theory and Noncommutative Topology, San Juan. October 22, 2018.

13. Noncommutative Dimension Theories, Texas A&M University. February 24, 2018.

14. Classification of Group von Neumann Algebras, American Institute of Mathematics, San Jose CA. February 2, 2018.

15. Summer Informal Regional Functional Analysis Seminar, Texas A&M University. July 22, 2017.

16. Operator Algebras: Dynamics and Interactions, Centre de Recerca Matemàtica, Barcelona. June 15, 2017.

17. Great Plains Operator Theory Symposium, University of Illinois at Urbana-Champaign. May 23, 2016.[†]

18. Classification of operator algebras: complexity, rigidity, and dynamics, Institut Mittag Leffler, Sweden. March 4, 2016.

19. Noncommutative Dimension Theories, University of Hawai'i. November 24, 2015.

20. Great Plains Operator Theory Symposium, Purdue University. May 27, 2015.

21. Danish-Norwegian Operator Algebras Workshop, Lysebu, Norway. December 8, 2014.

22. East Coast Operator Algebras Symposium, Fields Institute, Toronto. October 12, 2014.

23. Masterclass on Classification, Structure, Amenability and Regularity, University of Glasgow. August 25, 2014.

24. Great Plains Operator Theory Symposium, Kansas State University. May 21, 2014.[†]

25. Concentration Week: Dynamics, Geometry, and Operator Algebras, Texas A&M University. August 5, 2013.

26. Oberwolfach Workshop: "C^*-Algebras, Dynamics, and Classification," Mathematisches Forschungsinstitut Oberwolfach, Germany. October 29, 2012.

27. East Coast Operator Algebras Symposium, University of Tennessee, Knoxville. October 6, 2012.

28. Wabash Modern Analysis Mini-conference, Indiana University-Purdue University Indianapolis. September 15, 2012.[†]

29. Great Plains Operator Theory Symposium, University of Houston. May 30, 2012.[†]

30. NSF/CBMS Regional Conference in the Mathematical Sciences: "Topological and algebraic regularity properties of nuclear C^*-algebras," University of Louisiana at Lafayette. May 15, 2012.

31. AMS Fall Sectional Meeting, Special Session on Dynamical Systems and Operator Algebras, University of Nebraska-Lincoln. October 15, 2011.

32. Wabash Modern Analysis Mini-conference, Indiana University-Purdue University Indianapolis. September 24, 2011.[†]

33. Conference on Structure and Classification of C^*-algebras, Centre de Recerca Matemàtica, Bellaterra, Spain. June 7, 2011.[†]

34. Workshop on Dynamics and C^*-algebras, Centre de Recerca Matemàtica, Bellaterra, Spain. April 7, 2011.

35. Wabash Modern Analysis Mini-conference, Indiana University-Purdue University Indianapolis. October 2, 2010.[†]

[†]Contributed.

Seminar talks and other presentations

1. Speaker at the University of Nebraska-Lincoln Department of Mathematics Operator Algebras Seminar, May 2023.

2. Speaker at the Purdue University Operator Algebras Seminar, October 2019.

3. Speaker at the Baylor University Analysis Seminar, September 2016.

4. Speaker at the University of Houston Analysis Seminar, May 2016.

5. Speaker at the TCU Geometry and Global Analysis Seminar, April 2016.

6. Speaker at the University of Glasgow Operator Algebras Seminar, November 2014.

7. Speaker at the University of Copenhagen Operator Algebras Seminar, September 2014.

8. Speaker at the Penn State University C^*-algebra Seminar, February 2014.

9. Speaker at the Penn State University Noncommutative Geometry Seminar, December 2013.

10. Speaker at the Penn State University C^*-algebra Seminar, September 2013.

11. Speaker at the Purdue University Operator Algebras Seminar, April 2013.

12. Speaker at the University of Copenhagen Operator Algebras Seminar, December 2012.

13. Speaker at the Miami University Analysis Seminar, October 2012.

14. Speaker at the Purdue University Operator Algebras Seminar, August 2011.

15. Speaker at the Purdue University Operator Algebras Seminar, March 2010.

16. Speaker at the Purdue University Operator Algebras Seminar, October 2009.

17. Speaker at the Purdue University Operator Algebras Seminar, September 2009.

External support

Funding agency	Title	Amount ($)	Period
National Science Foundation	The Brazos Analysis Seminar	17,250	2024
National Science Foundation	The Brazos Analysis Seminar‡	45,000	2020−23
American Institute of Mathematics	Von Neumann Algebraic Techniques in the Classification of C^*-algebras	—	2019−23
National Science Foundation	The 2018 East Coast Operator Algebra Symposium	20,000	2018
National Science Foundation	Applications of Polynomial Systems: NSF/CBMS Regional Conference‡	38,950	2018
National Science Foundation	The Great Plains Operator Theory Symposium of 2017	50,000	2017
National Science Foundation	Noncommutative Topological Spaces Associated with Groups or Dynamical Systems	150,000	2013−16
Purdue Research Foundation	Invariants of Noncommutative Spaces	15,750	2012−13

Internal support

Funding agency	Title	Amount ($)	Period
Texas Christian University	Junior Faculty Summer Research Grant	6,000	2016

‡Co-PI.

Teaching

Courses taught at TCU

1. Math 10283 (Applied Calculus)

2. Math 10524 (Calculus I)

3. Math 20524 (Calculus II)

4. Math 30053 (Introduction to Mathematical Proof)

5. Math 30524 (Calculus III)

6. Math 30224 (Linear Algebra)

7. Math 40553 (Fourier Analysis)

8. Math 50503 (Real Analysis I)

9. Math 50253 (Abstract Algebra I)

10. Math 60263 (Abstract Algebra II)

11. Math 60553 (Fourier Analysis)

12. Math 60970 (Abstract Harmonic Analysis)

13. Math 60970 (Operator Theory and C^*-algebras)

14. Math 60970 (Functional Analysis)

15. Math 80970 (Advanced Topics: Directed Studies)

Courses developed at TCU

1. Fourier Analysis

2. Abstract Harmonic Analysis

3. Operator Theory and C^*-algebras

4. Functional Analysis

Graduate dissertations directed, or committee service

1. Ph.D. thesis advisor for Douglas Wagner (graduated spring 2021)

2. Member of Nathanael Hellerman's Ph.D. dissertation committee

Service

Department service

1. Real Analysis Qualifying Exam Commitee (2018, 2020, 2023)

2. Mathematics Department Advisory Committee (2022–present)

3. Chair of Long-term Planning Committee (2021–present)

4. Department of Mathematics Assessment Coordinator (2019–present)

5. Department of Mathematics Graduate Committee (2016–present)

6. Chair of Hiring Committee (2022–23)

7. Hiring Process Committee (2022–23)

8. Instructional Continuity Facilitator (2020)

9. Assistant Graduate Director (2019–23)

10. Calculus Textbook Committee (2018)

11. Department of Mathematics Hiring Committee (2015–16)

12. Manager of the Department of Mathematics calendar (2015–22)

13. Judge for the TCU Calculus Bee (2015–17 and 2019)

14. Parabola Talk: The Banach-Tarski Paradox, Texas Christian University, March 2016

15. Graduate Student Seminar: Amenability and paradoxicality, March and April 2016

College service

1. Student Research Symposium Committee (2019–present)

2. Search Committee for Dean of College of Science and Engineering (2020–21)

3. College of Science and Engineering eTrainer (2020)

4. College of Science and Engineering College Connect Team (2020)

University service

1. Core Curriculum Council (2023–present)

2. Heritage, Mission, Vision and Values Subcommittee of the Core Curriculum Council (2023–present)

3. University Assessment Process Committee (2022–2023)

4. Core Curriculum Review Committee (2021–22)

5. Heritage, Mission, Vision and Values Committee (2016–22)

6. Faculty Senate (2016–21)

7. Faculty Senate Committee of University Committees (2019–21)

8. Faculty Senate Educational Evaluation Committee (2016–18)

9. Faculty Senate Academic Excellence Committee (2018–19)

10. College 101 Mentor (2015–16)

Professional service

1. Judge for the Jim Bolen Math Competition Scholarship (2022–present)

2. Co-organizer of the Brazos Analysis Seminar, a semiannual regional meeting for mathematicians and graduate students (2019–present)

3. Reviewer for grant applications for the National Science Foundation, Division of Mathematical Sciences (3 years)

4. Co-organizer of Spring Texas Geometry and Topology Conference of 2023

5. Reviewer for grant applications for the Natural Sciences and Engineering Research Council of Canada (NSERC) (2 years)

6. Mentor for the National Alliance for Doctoral Studies in the Mathematical Sciences (the Math Alliance)

7. Organized the East Coast Operator Algebra Symposium of 2018

8. Co-organizer of the NSF/CBMS Regional Conference "Applications of Polynomial Systems" (2018)

9. Organizer of the Great Plains Operator Theory Symposium of 2017

10. Co-organizer of the Spring Texas Geometry and Topology Conference of 2016

11. Member of American Mathematical Society

12. Member of Great Plains Operator Theory Symposium Steering Committee

13. Referee for Advances of Mathematics; Compositio Mathematica; Documenta Mathematica; Forum of Mathematics, Sigma; Journal of Functional Analysis; Journal of Noncommutative Geometry; Journal of Operator Theory; Journal of Topology and Analysis; Journal of the European Mathematical Society; Transactions of the American Mathematical Society; Proceedings of the American Mathematical Society

Community activities directly related to professional skills

1. Guest math speaker and volunteer at North Hi-mount Elementary (2018–present)

2. Guest speaker and volunteer at Ridglea Hills Elementary (2016)

3. Speaker at Fort Worth Math Circle (2018-20)