Jesús R. Oliver

Associate Professor of Mathematics
California State University, East Bay

Curriculum Vitae
Updated September 2026

Areas of specialization: Partial Differential Equations; General Relativity; Mathematics Education
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Academic Appointments

2022–Present	**Associate Professor**, California State University, East Bay
2016–2022	**Assistant Professor**, California State University, East Bay
2015	**Postdoctoral Fellow**, Institut Henri Poincaré, Paris, France
2013–2016	**Lecturer**, University of California, San Diego

Education

2008–2013	**Ph.D. in Pure Mathematics**, University of California, San Diego Thesis: "A Vector Field Method for Non-Trapping Spacetimes" Advisor: Jacob Sterbenz
2003–2006	**M.S. and B.S. in Pure Mathematics**, University of California, Los Angeles

Teaching Experience

California State University, East Bay

2022–Present	**Lower-division courses:** MATH 230, Calculus III (Fall 2022, Spring 2023, Fall 2023, Spring 2025); MATH 285, Introduction to Differential Equations (Spring 2023, Fall 2025, Fall 2026).
2022–Present	**Upper-division courses:** MATH 330, Analysis I (Spring 2023); MATH 331, Analysis II (Fall 2026; new preparation); MATH 385, Systems of Differential Equations (Fall 2022, Fall 2023, Fall 2025, Fall 2026; developed and led course curriculum).
2022–Present	**Graduate courses:** MATH 660, Topology (Fall 2022, Spring 2025); MATH 675, Differential Equations (Fall 2023, Spring 2026).
2022–Present	**Individualized, capstone, and research instruction:** MATH 490/690, Independent Study; MATH 692, Mathematics Comprehensive Exam Capstone; MATH 694, Graduate Mathematics Research.
2024	No teaching assignment in Spring 2024 (parental leave) or Fall 2024 (sabbatical leave).
2016–2021	Taught thirteen distinct CSUEB courses spanning Precalculus Support; Calculus I, II, and III; upper-division mathematics; MATH 625, Mathematical Physics; and graduate mathematics. This portfolio included four new courses designed, developed, and first taught by Oliver.

Student Research Mentoring

2022–Present **Research mentees:** Gregory Mwamba, Vladimir Lopez, Matthew Hanna, Shane McCalib, Phoebe Cheung, Russell Marasigan, Alex Gibson, Cristian Ramirez, and John Cavanaugh. Mentoring has emphasized advanced mathematics, collaborative research, scientific writing, and research presentation.

2024 **Published research with student coauthors:** Research mentor and coauthor with CSUEB mathematics master's students Gregory Mwamba and Jonathon McCollum on "A Sufficient Condition for Blowup of the Nonlinear Klein–Gordon Equation with Positive Initial Energy in FLRW Spacetimes," published in *Nonlinear Analysis* 246, 113582.

2023 **Student conference presentation:** Gregory Mwamba, then a CSUEB mathematics master's student, presented joint research with Jonathon McCollum and Jesús Oliver at the Joint Mathematics Meetings in the AMS Contributed Paper Session on Partial Differential Equations I. His talk was titled "A Sufficient Condition for Blowup of the Nonlinear Klein–Gordon Equation with Arbitrarily Positive Initial Energy in General FLRW Spacetimes."

2024–2026 **Russell Marasigan:** Research mentor for "Analyzing Wave Decay in FLRW Spacetimes Using Numerical Methods." Marasigan earned first place in the Physical and Mathematical Sciences category at the 2025 CSU Student Research Competition, second place in the 2025 CSUEB Grad Slam STEM category, and a judges' award at the 2025 CSUEB Center for Student Research poster exhibit.

2026 **Developing student research manuscripts:** Mentored Shane McCalib and Alex Gibson on *Wave Equation with Perturbed Variable Coefficients on Expanding Cosmological Spacetimes*; mentored Phoebe Cheung, Cristian Ramirez, and Alex Gibson on *Finite Time Blow-Up in a Damped Klein–Gordon Equation*. Both manuscripts are in progress for submission to peer-reviewed journals.

2026 **Conference presentation:** Phoebe Cheung presented the collaborative damped Klein–Gordon research poster at MathFest 2026. The poster also credits Alex Gibson, Russell Marasigan, Cristian Ramirez, and Jesús Oliver.

2024–2026 **Doctoral placements:** Six of seven graduated research mentees entered Ph.D. programs in mathematics or applied mathematics: Gregory Mwamba (UC Merced), Vladimir Lopez (UC Riverside), Shane McCalib (UC Davis), Russell Marasigan (UC Davis), Alex Gibson (Oregon State University), and Phoebe Cheung (UC Riverside).

Grants, Fellowships, and Awards

2025–2026 **Co-PI and CSUEB Principal Investigator**, U.S. Department of Energy, Office of Science RENEW Award, "Nuclear Physics California Connection to Train Undergraduate Students (Nuclear Physics CACTUS)." Award No. DE-SC0025746; CSUEB award: $187,194.

2023 Rosemary and Matthew Spitzer Distinguished Science Faculty Award, CSU East Bay College of Science

2023–2026 AMS-Simons Research Enhancement Grant for Primarily Undergraduate Institution Faculty

2022 Haimo Award for Distinguished Teacher of University Mathematics, MAA Golden Section

2018–2022 SEMINAL Phase 2 Grant, National Science Foundation

2017–2018 Course Redesign with Technology Grant, CSU Chancellor's Office

2016–2017 Research in Pairs, Institut Henri Poincaré, Paris, France

2016 Postdoctoral Fellowship, IHP-ANR, Paris, France

2008–2010 Eugene Cota-Robles Fellowship, University of California, San Diego

2003–2006 Regents Scholarship, University of California, Los Angeles

Publications and Preprints

Peer-Reviewed Publications: Wave Equations

2024 J. McCollum, G. Mwamba, and J. Oliver. "A Sufficient Condition for Blowup of the Nonlinear Klein–Gordon Equation with Positive Initial Energy in FLRW Spacetimes." *Nonlinear Analysis* 246, 113582. doi:10.1016/j.na.2024.113582.

2023 J. Costa, A. Franzen, and J. Oliver. "Semilinear Wave Equations on Accelerated Expanding FLRW Spacetimes." *Annales Henri Poincaré*. doi:10.1007/s00023-023-01319-9.

2023 P. G. LeFloch, J. Oliver, and Y. Tsutsumi. "Boundedness of the Conformal Hyperboloidal Energy for a Wave–Klein–Gordon Model." *Journal of Evolution Equations*. doi:10.1007/s00028-023-00925-8.

2020 J. Oliver and J. Sterbenz. "A Vector Field Method for Radiating Black Hole Spacetimes." *Analysis & PDE* 13(1), 29–92. doi:10.2140/apde.2020.13.29.

2016 J. Oliver. "A Vector Field Method for Non-Trapping, Radiating Spacetimes." *Journal of Hyperbolic Differential Equations* 13(4), 735–790. doi:10.1142/S021989161650020X.

Peer-Reviewed Publications: Mathematics Education

2024 J. Oliver, J. Olkin, and S. Sisneros-Thiry. "Leveraging a Community of Practice Model to Accelerate Change." *PRIMUS*. doi:10.1080/10511970.2024.2354811.

2024 A. Stanciulescu, F. Castronovo, and J. Oliver. "Assessing the Impact of Visualization Media on Engagement in an Active Learning Environment." *International Journal of Mathematical Education in Science and Technology*. doi:10.1080/0020739X.2022.2044530.

2021 J. Oliver and J. Olkin. "A Community of Practice Model for Infusing Active Learning in the Classroom." *PRIMUS* 31(3–5), 252–268. doi:10.1080/10511970.2020.1746452.

Preprints

2026 J. L. Costa, J. Oliver, and F. Rossetti. "Global Existence for a Fritz John Equation in Expanding FLRW Spacetimes." arXiv:2603.02307.

Book Chapters

2023 J. Oliver, J. Olkin, and A. Stanciulescu. "A Multi-Pronged Approach for Closing Opportunity Gaps in Calculus." In M. Voigt, J. Ellis Hagman, J. Gehrtz, B. Ratliff, N. Alexander, and R. Levy (eds.), *Justice Through the Lens of Calculus: Framing New Possibilities for Diversity, Equity, and Inclusion*, MAA Notes 96, 317–326. Mathematical Association of America.

Recent Presentations

Invited Research Talks

Summer 2026	Invited talk, AIM UP! Research Experience for Undergraduates, University of Wisconsin–Milwaukee.
Mar. 2026	"Global Existence for a Fritz John Equation in Expanding FLRW Spacetimes," Analysis and PDE Seminar, University of California, Berkeley.
Oct. 2025	"The Wave Equation on FLRW Spacetimes," Physics and Astronomy Colloquium, California State University, Sacramento.
Oct. 2024	"A Vector Field Method for Semilinear Wave Equations on FLRW Spacetimes," Mathematical Relativity Seminar, Instituto Superior Técnico, University of Lisbon, Lisbon, Portugal.
Summer 2024	Invited talk, MSRI Undergraduate Program (MSRI-UP), Simons Laufer Mathematical Sciences Institute, Berkeley, California.

Mathematics Education Presentations and Workshops

2024	"Dynamic Calendars," Eliminating Mathematics Barriers workshop, Washington, DC.
2023	Joint Mathematics Meetings, Special Session on "Lessons Learned from Successful Departmental Efforts to Transform Precalculus and Calculus," Boston, Massachusetts.

Selected Earlier Presentations

Research

2019	AMS Sectional Meeting, Special Session on "Wave Phenomena in Fluids and Relativity," University of Wisconsin–Madison.
2019	Mathematics Colloquium, Santa Clara University.
2018	General Relativity Seminar, Centre for Mathematical Analysis, Geometry, and Dynamical Systems, Lisbon, Portugal.
2017	Mathematics and Statistics Colloquium, San José State University.
2016	Workshop on Global Nonlinear Stability of Einstein Spacetimes, Oberwolfach, Germany.
2015	Mathematical General Relativity Seminar, Institut Henri Poincaré, Paris, France.
2015	General Relativity and Gravitation: A Centennial Perspective, Pennsylvania State University.
2015	Analysis and PDE Seminar, University of California, Berkeley.
2014	AMS Fall Western Sectional Meeting, San Francisco.
2014	Differential Equations Seminar, University of Michigan, Ann Arbor.
2014	AMS Session on PDE, Joint Mathematics Meetings, Baltimore.

Mathematics Education

2022 Change DIAL Conference, parallel session: "Community at the Center: The CSUEB Model and How It Can Help."

2022 Critical Issues in Mathematics Education, parallel session: "Community at the Center: How Communities of Practice Can Help," with J. Olkin, Mathematical Sciences Research Institute, Berkeley, California.

2020 SEMINAL Data Workshop, virtual session 2a: "How to Disaggregate Student Data," with A. Stanciulescu.

2020 Joint Mathematics Meetings, MAA Contributed Paper Session on Active Learning in Introductory Courses, Denver, Colorado.

2019 Progress Through Calculus/SEMINAL Joint Meeting, Lincoln, Nebraska.

Academic and Professional Service

Departmental Leadership and Service

2023–2026 **Graduate Program Coordinator**, Department of Mathematics: academic year 2023–2024; Spring and Fall 2025; Fall 2026.

Spring 2026 **Interim Chair**, Department of Mathematics.

2022–Present **Retention, Tenure, and Promotion Committee**: member throughout the review period except Fall 2024 sabbatical; committee chair in Spring 2024, Spring 2025, and Fall 2025.

2022–Present **Department Scholarship Committee**: member throughout the review period.

2023–Present **Calculus Course Coordinator**: Fall 2023–Present, excluding the Fall 2024 sabbatical semester.

2021–2023 **Mathematics Faculty Search Committees**: academic years 2021–2022 and 2022–2023.

2016–Present **Student advising**: undergraduate and graduate academic advising, research mentoring, graduate-school preparation, and career guidance.

College and University Service

Spring 2026 Faculty Affairs Committee (FAC) Outstanding Professor/Week of Recognition (WoR) Faculty Awards Subcommittee.

Spring 2026 3-/4-Unit Course Task Force, Executive Committee of the Academic Senate.

Professional Service

2027 Organizer, SLMath Special Session on PROOF Working Groups.