

NANCY (RUO NING) QIU

Website
nqiu5796@sdsu.edu
r1qiu@ucsd.edu

EDUCATION	San Diego State University (SDSU) & UC San Diego (UCSD)	
	<i>Ph.D. Student in Mathematics and Science Education (MSED)</i>	2023–Present
	University of British Columbia (UBC)	
	<i>Master of Science in Mathematics</i>	2021–2023
	University of Toronto (UofT)	
	<i>Honours Bachelor of Science with High Distinction</i>	2017–2021
PUBLICATIONS	1. Qiu, R. N. (2025). Exploring students' understanding of a limit of a sequence: Using ϵ -strip activity with Realistic Mathematics Education framework. In S. Cook, B.P. Katz, & K. Melhuish (Eds.), <i>Proceedings of the 27th Annual Conference on Research in Undergraduate Mathematics Education</i> (pp. 1404–1405). SIGMAA on RUME. Alexandria, VA. http://sigmaa.maa.org/rume/crume2025/232.pdf	
	2. Qiu, R. N., Rasmussen, C., Carney, D., & Fortune, N. (2025). The impact of an upper division inquiry-oriented content course on prospective teachers: Embracing a critical stance. In S. Cook, B.P. Katz, & K. Melhuish (Eds.), <i>Proceedings of the 27th Annual Conference on Research in Undergraduate Mathematics Education</i> (pp. 346–354). SIGMAA on RUME. Alexandria, VA. http://sigmaa.maa.org/rume/crume2025/104.pdf	
	3. Qiu, R. N., Vadaparty, A., Vintha, S., & Dow, S. (2025). Self-reflective crowds: Surfacing wisdom through emergent scaffolding. In <i>Proceedings of the ACM Collective Intelligence Conference (CI '25)</i> (pp. 169–187). https://doi.org/10.1145/3715928.3737478	
MANUSCRIPTS IN PROGRESS (CHRONOLOG- ICALLY)	1. Qiu, R. N., Rasmussen, C., Carney, D., Fortune, N., Jacome, N., & Stewart, M. (Proposal accepted, full paper in preparation). Bridging tertiary and secondary mathematics: Promoting a critical stance in an inquiry-oriented dynamical systems and modeling course. <i>Mathematics Teacher Education and Development</i> (Special Issue on <i>Mathematics Teacher Educators: Theories, Methodologies and Teaching Practices</i>).	
	2. Qiu, R. N., Rasmussen, C., Fortune, N., & Carney, D. (In preparation). The impact of an upper division inquiry-oriented content course on prospective teachers: Embracing a critical stance. <i>International Journal of Research in Undergraduate Mathematics Education</i> .	
	3. Marcroft, T. A., Qiu, R. N. & Komperda, R. (In preparation). Practices in instrument use and development in the Journal of Chemical Education 2010–2024. <i>Journal of Chemical Education</i> .	
	4. Li, W., Ho, C., Qiu, R. N., Wang, Y., & Ortner, C. (In preparation). Analyzing frequentist inverse problems in machine-learned interatomic potentials: A theoretical framework.	

RESEARCH EXPERIENCE	Making Upper Division Mathematics Courses More Relevant for Future High School Teachers: The Case of Inquiry-Oriented Dynamical Systems and Modeling SDSU, Graduate Research Assistant, NSF#2337047	Aug 2024–Present
	Emergent Scaffolding for Knowledge Sharing in Communities UCSD, ProtoLab	Feb 2024–Present
	Investigating Teaching Assistants’ Beliefs About Teaching and Learning UCSD, Department of Computer Science & Engineering	Fall 2024
	The Chemistry Instrument Review and Assessment Library SDSU, Graduate Research Assistant, NSF#1914996	Aug 2023–2024
	Course Sequencing in CSE and Equity Analytics Plan UCSD, Research Rotation	Spring 2024
	Examining the Impact of Mathematical Definitions on Students’ Writing UofT, Independent Study in Math Education	Sept 2020–Oct 2022
	Exploring Mathematics Models Against Diabetes: Glucose Level Analysis UofT, Fields Institute, Undergraduate Research Assistant	Summer 2020
	Measuring Conceptual Knowledge in First-Year Calculus UofT, Research Opportunity Program	Summer 2019

CONFERENCE TALKS	1. Marcroft, T. A., Qiu, R. N. , & Komperda, R. (2025, March). <i>Patterns in the development and use of education instruments in the Journal of Chemical Education (2010–2020)</i> . Talk presented at the ACS Spring 2025 National Meeting, San Diego, CA.	
	2. Qiu, R. N. , Rasmussen, C., Fortune, N., & Carney, D. (2025, February). <i>The impact of an upper division inquiry-oriented content course on prospective teachers: Embracing a critical stance</i> . Paper presented at the Research in Undergraduate Mathematics Education Conference (RUME 2025), Alexandria, VA.	
	3. Qiu, R. N. , Rasmussen, C., Fortune, N., & Carney, D. (2024, October). The impact of a redesigned differential equations course on prospective teachers: Embracing a critical stance. Talk presented at the American Mathematical Society (AMS) Western Sectional Meeting, University of California, Riverside, CA.	
	4. Qiu, R. N. , Marcroft, T. A., & Komperda, R. (2024, July). <i>Instrument development and use in the Journal of Chemical Education (2010–2014)</i> . Talk presented at the Biennial Conference on Chemical Education, University of Kentucky, KY.	
	5. Smith, K., & Qiu, R. N. (2024, February). <i>Cohort-based program and seminar course for first-year science students</i> . Facilitated dialogue presented at the 43rd Annual Conference on The First-Year Experience, Seattle, WA.	
	6. Barresek, K., Li, X., Qiu, R. N. , & Siefken, J. (2022, October). <i>Exploring the effectiveness and usage of math definitions in exam responses</i> . Talk presented at the Northeastern Conference on Research in Undergraduate Mathematics Education, Online.	
	7. Qiu, R. N. , & Ortner, C. (2022, July). <i>Estimating interatomic potentials as a Bayesian inversion problem</i> . Talk presented at the Ottawa Math Conference, Online.	
	8. Qiu, R. N. , & Li, X. (2021, March). <i>Exploring the effectiveness and usage of math definitions in exam responses</i> . Talk presented at the Trinity College Undergraduate Research Conference, Online.	
	9. Bachina, P., Qiu, R. N. , Wan, G., & Yang, X. (2020, August). <i>Testing math models against diabetes: Glucose level analysis</i> . Talk presented at the Canadian Undergraduate Mathematics Conference, Online.	
	10. Ing, K., & Qiu, R. N. (2019, July). <i>“What makes a good calculus test?”: A summer research project</i> . Talk presented at the Canadian Undergraduate Mathematics Conference, Queen’s University, ON.	

POSTERS	1. Carney, D., Rasmussen, C., Fortune, N., Qiu, R. N. , Jacome, N., & Stewart, M. (2025, August). <i>Making upper division mathematics courses more relevant for future high school teachers: The case of inquiry-oriented dynamical systems and modeling</i> . Poster presented at MAA MathFest 2025, Sacramento, CA.	
	2. Qiu, R. N. (2025, February). <i>Exploring students' understanding of a limit of a sequence: Using ϵ-strip activity with Realistic Mathematics Education framework</i> . Poster presented at RUME 2025, Alexandria, VA.	
	3. Qiu, R. N. , Marcroft, T. A., & Komperda, R. (2024, June). <i>A case study: Comparing instruments in chemistry education and mathematics education with a coding scheme</i> . Poster presented at the UC STEM T ³ PN Conference, University of California, Irvine, CA.	
	4. Qiu, R. N. , Marcroft, T. A., & Komperda, R. (2024, April). <i>A case study: Comparing instruments in chemistry education and mathematics education with a coding scheme</i> . Poster presented at the MAA SoCal-Nev Section Meeting, University of San Diego, CA.	
	5. Qiu, R. N. , Marcroft, T. A., & Komperda, R. (2024, March). <i>A case study: Comparing instruments in chemistry education and mathematics education with a coding scheme</i> . Poster presented at the SDSU Student Symposium, San Diego State University, CA.	
	6. Ing, K., LeBlanc-Doucet, T., Mayes-Tang, S., Moorroogen, Y., & Qiu, R. N. (2020, January). <i>Measuring conceptual knowledge of first-year calculus</i> . Poster presented at MathEd Forum Research Day, Fields Institute, University of Toronto, ON.	
WORKSHOPS	1. PEER-SoCal (University of San Diego) <i>Regional Field School on Discipline-Based Education Research</i>	July 2024
	2. Critical Issues in Mathematics Education (UC Berkeley) <i>Bringing Innovation to Scale: Teaching-Focused Faculty as Change Agents</i>	Apr 2024
ACADEMIC SERVICES	MSED Graduate Student Council, <i>Graduate Student Co-Representative</i>	2025–Present
	MSED Peer Mentoring Committee Member	2025–Present
	Manuscript Reviews <i>27th Annual Conference on Research in Undergraduate Mathematics Education</i> <i>ACM Collective Intelligence Conference 2025</i>	
	UBC IAM Graduate Student Committee	2023
AWARDS & HONORS	SDSU University Graduate Fellowship	2025–26
	SDSU Presidential Graduate Research Fellowship	2023
	UBC Faculty of Science Graduate Award	2021–22
	UofT Dean's List Scholar	2018–21
	UofT Scholar	2017

PROFESSIONAL & TEACHING EXPERIENCE	Mentor TA, Dept. of CSE, UC San Diego	Fall 2024
	CSE599 - <i>Teaching Methods in Computer Science</i>	
	VERSA Pod Mentor, REU Program, UC San Diego	Summer 2024
	Small Class Instructor, Dept. of Mathematics, UBC	Winter 2023
	MATH101 - <i>Integral Calculus with Applications</i>	
	Graduate Teaching Assistant, Dept. of Mathematics, UBC	Sept 2021–May 2023
	MATH200 - <i>Calculus III</i> , MATH444 - <i>Mathematical Research and Writing</i> , MATH105 - <i>Integral Calculus with Applications to Commerce and Social Sciences</i> , & MATH405 - <i>Numerical Methods for Differential Equations</i>	
	Graduate Curriculum Assistant, Dept. of Science, UBC	Summer 2022
	Teaching Assistant, Dept. of Mathematics, UofT	Sept 2018–May 2021
SKILLS	MATH223 - <i>Linear Algebra</i>	
	Observation Teaching Assistant, UofT	Sept 2019–May 2020, Spring 2021
	Remote Course Community Advisor, Work Study Program, UofT	Summer 2020
	Certificate: CIRTL Associate (Math Instructional Skills Workshop & Summer Teaching Institute at UBC)	
	Technical: MAXQDA, Qualtrics, Python, Java, Julia, R, MATLAB, SQL, L ^A T _E X.	
	Languages: Mandarin, English.	