

# JENNIFER L SINCLAIR, PhD

Cincinnati, Ohio

jennifer.sinclair@uc.edu

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## EMPLOYMENT

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Assistant Professor Educator of Mathematics <i>University of Cincinnati, Main Campus, Cincinnati, Ohio</i>	2019-present
Associate Professor of Mathematics <i>Georgia Gwinnett College, Lawrenceville, GA</i>	2015-2019
Assistant Professor of Mathematics <i>Georgia Gwinnett College, Lawrenceville, GA</i>	2009-2015
Graduate Teaching Assistant/Associate <i>University of Tennessee, Main Campus, Knoxville, TN</i>	2003-2009

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## EDUCATION

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PhD in Mathematics <i>University of Tennessee, Knoxville, TN</i> Core Area: Probability; Advisor: Jan Rosinski	2009
BS in Mathematics <i>University of the South, Sewanee, TN</i>	2003

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## PUBLICATIONS

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P. Boindala, N. Brewley, J. Sinclair "Ideation to Execution: Flipping an undergraduate pre-calculus course to create significant learning experiences." Chapter 2 in *Implementation and Critical Assessment of the Flipped Classroom; Advances in Educational Technologies and Instructional Design.* (2015).

J. Sinclair. A Generalization Result Regarding the Small and Large Scale Behavior of Infinitely Divisible Processes. *Journal of Mathematical Analysis and Applications.* 398(1): 239-253. (2013).

L. Uko, J. Sinclair. A Simple Formula for De La Loubere's Method. *The Mathematical Scientist.* 38, 1-6. (2013).

K. Kakish, L. Pollacia, A. Heinz, J. Sinclair. Analysis of the Effectiveness of Traditional Versus Hybrid Student Performance for an Elementary Statistics Course. *International Journal for the Scholarship of Teaching and Learning.* 6, 2. (2012).

J Rosinski, J. Sinclair. Generalized Tempered Stable Processes. *Banach Center Publications, Institute of Mathematics, Polish Academy of Sciences.* Warszawa, 90. (2010).

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## TEACHING

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University of Cincinnati, Uptown Campus

*Courses taught as primary instructor:*

- STAT 1034 - Elementary Statistics I
- STAT 1035 – Elementary Statistics II
- MATH 1061 - Calculus I
- MATH 1062 - Calculus II
- MATH 1044 - Applied Calculus I

MATH 1045 - Applied Calculus II  
STAT 2037 – Probability and Statistics I  
MATH 9040 – ProSeminar for Teaching College Mathematics

Georgia Gwinnett College

*Courses taught as primary instructor:*

Mathematical Statistics I  
Mathematical Statistics II  
Foundations of Mathematics (Intro to Proof)  
Statistics  
Calculus I  
Calculus II  
Pre-Calculus  
College Algebra  
Quantitative Skills and Reasoning  
Pre-College Algebra  
Statistical Analysis for Business

University of Tennessee, Main Campus

*Courses taught as primary instructor:*

Calculus I  
Calculus II  
Calculus III  
Pre-Calculus  
Business Calculus  
College Algebra  
Statistical Reasoning

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#### RESEARCH FUNDING

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Principal investigator.

STEM Mini-Grants, A Research-Based Pilot Course for Statistics, as a Component of 4y- URE, \$2786.24, 2011-2012, (J. Sinclair, PI, N. Brewley and P. Boindala, Co-PIs).

Principal investigator.

STEM Mini-Grants, Renewal: A 10-week Research Based Learning Module for Statistics, \$3,968.00, 2012-2013, (J. Sinclair, PI, N. Brewley, P. Boindala, and J. Whitener, Co-PIs).

Co-principal investigator.

STEM Mini-Grants, Flipping the Pre-Calculus Classroom, \$2,703.91, 2013-2014. (P. Boindala, PI, N. Brewley, J. Sinclair, and K. Erickson, Co-PIs).

Co-principal investigator.

STEM Mini-Grants, Flipping the Pre-Calculus Classroom Renewal, \$2,160.00, 2014-2017. (P. Boindala, PI, N. Brewley and J. Sinclair, Co-PIs).

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#### LEADERSHIP POSITIONS

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Course Coordinator for Elementary Statistics I and II (*2020-present*)

*University of Cincinnati*

Acted as course coordinator for multiple sections of statistics, created and distributed syllabus, assisted faculty and instructors teaching the course, created common assessment strategies, created pre-recorded videos for instructional use

Faculty Sponsor to Kappa Mu Epsilon Georgia Zeta Chapter Honor Society (*2015-2019*)

*Georgia Gwinnett College*

Maintained membership database, organized formal induction ceremonies, coordinated meetings and classroom allocation, distributed honor cords for KME students to wear to graduation.

Co-director for Kappa Mu Epsilon Regional Convention (2018)

*Georgia Gwinnett College*

Served as co-director for an undergraduate convention focused on student undergraduate research presentations of KME honor society members.

Chair of Active Learning Committee (2016-2017)

*Georgia Gwinnett College*

Led a committee of faculty represented from various STEM disciplines to maintain a repository of active learning strategies for campus wide course use.

Chair of Mathematics Engagement Committee (2014-2015)

*Georgia Gwinnett College*

Served as chair of a committee to enhance the experience of undergraduates in relation to student clubs, extracurricular activities, Putnam exam, and other engagement offerings.

Course Coordinator for Statistics (2010-2014)

*Georgia Gwinnett College*

Acted as course coordinator for multiple sections of statistics, distributed syllabus, assisted full and part time faculty, reported departmental end of semester assessment procedures.

REFEREE WORK

Research Journal Anonymous Referee

*Probability and Mathematical Statistics*, 2016, 2018

Statistics and Computing, 2017

*Communications in Statistics-Theory and Methods*, 2014

Published Book Review

J. Sinclair. "Mathematical Statistics with Applications in R MAA Book Review." *Mathematical Association of America*. Published June 26, 2015. <http://www.maa.org/press/maareviews/mathematical-statistics-with-applications-in-r>

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## AWARDS

- Dorothea & Edgar D. Eaves Teaching Award 2008  
*Top teaching award among Graduate Teaching Assistants*
  - UT Science Alliance Fellowship Award 2005-2009  
*Partial support and reduced teaching requirements*
  - American Women in Mathematics Nominee Membership 2008  
*Selected as a nominee through a vote of the professorial staff at UT*
  - Order of the Gownsmen Inductee 2002  
*Undergraduate honor society, University of the South*

## **SELECTED SERVICE**

Graduate Teaching Assistant – Faculty Mentor

Observed a calculus recitation class and provided mentorship as a portion of the pro seminar for new graduate teaching assistants

2025

College Credit Plus – Faculty Mentor

Served as faculty mentor and evaluator to local high school teacher leading a college credit plus course at Finneytown High School. Formal teaching observation and course materials provided.

2024

Ohio Transfer 36 (OT36) STAT 1034

Submitted application for STAT 1034 to meet the guidelines from the Ohio department

of Education to permit transfer of course for TMM010 Statistics.

Math Hiring Committee Member	2024
Reviewed applications, participated in interviews, and viewed teaching demos	
Developed Online Asynchronous Course STAT 1035	2022
recorded videos, created online assessments and engagement activities	
Developed Online Asynchronous Course STAT 1034	2020
recorded videos, created online assessments and engagement activities	
Course Design – Elementary Statistics II	2020
Redesigned elementary statistics including Excel projects, textbook and assignments	
Course Design – Elementary Statistics I	2020
Redesigned elementary statistics to include Excel projects, textbook and assignments	
Faculty Advisor	2009-2018
Served as an academic advisor to mathematics majors and pre-nursing students	
Volunteer Tutor	2009-2016
Mathematics tutor in the Academic Enhancement Center	
Undergraduate Scholarship and Creative Activities Member	2015-2016
Advised administration on management of student faculty collaboration	
Math Graduate Student Forum Panelist	2016
Advised students on careers available to mathematics PhD students	
Grant Judge	2013-2015
Reviewed and ranked faculty grant submissions for undergrad research and scholarship of teaching and learning projects	
Undergraduate Research Committee Member	2011-2014
Worked on a committee to promote undergraduate research to students in mathematics, biology, chemistry, information technology, and exercise science	
Student Integrity Board Member	2011-2012
Student conduct procedures and hearings	
Faculty Mentor	2010-2012
Provided guidance and assistance to a new mathematics faculty members	
Mathematics Teacher Certification Goal Team Member	2010-2011
Responsible for making program operation and assessment suggestions for the secondary education certification program in mathematics	
Center For Teaching Excellence Committee Member	2010-2011
Provided advice and guidance to the CTE in regards to faculty professional development training and seminars	
Math Hiring Committee Member	2009-2010
Reviewed applications, participated in interviews, and viewed teaching demos	
Graduate Teaching Mentor	2007-2009
Provided support and guidance to first year graduate teaching assistants	

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## Teaching Activities and Certifications

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SoTL Journal Club Participant. <i>University of Cincinnati.</i>	2020-2025
Attended and participated in monthly meetings to discuss recent Scholarship of Teaching & Learning articles and how they can be integrated into the classroom.	
Math Learning Community Participant. <i>University of Cincinnati.</i>	2019-2022
Attended and participated in monthly meetings to view presentations and engage in discussions about teaching methodologies applied to the math classroom	
Canvas 101 Online Training <i>University of Cincinnati.</i>	2020
Modules completed on designing, importing, building, organizing, and assessment in the learning management system Canvas.	
Secondary Education Certification	valid 2003-2008
Received certification from the Department of Education to teach high and middle school mathematics in the public school system of Tennessee	
Student Teacher – <i>Franklin County High School and North Middle School, Winchester, TN</i>	2003
Taught Algebra I & II, Pre-Algebra, and 8 <sup>th</sup> Grade Math under supervision	
TN Math Teachers Association Math Contest Grader <i>Knoxville, TN</i>	2008
Graded tests and tallied scores to determine final rankings of contestants in the mathematics competition.	
UT Pro2Serve Math Contest Judge and Timer <i>Knoxville, TN</i>	2003-2008
Judged matches and timed responses of high school mathematics contestants for the annual math competition hosted by the University of Tennessee.	
Girls' Math Club Leader <i>Halls Middle School, Halls, TN</i>	2003-2004
Led middle school girls in mathematical projects and games. Acted as a role model for girls in mathematics. Responsible for creating academic activities. Program funded by MAA Tensor Grant Program and organized through UT Outreach.	

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## PRESENTATIONS

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2023	J. Sinclair. SoTL Journal Club discussion facilitator. Led discussion on analysis of article on active learning in a flipped classroom. Cincinnati, OH.
2022	J. Sinclair. Math Learning Community discussion facilitator. Led discussion about issues regarding in-person attendance issues and suggestions for improving. Cincinnati, OH.
2021	J. Sinclair. Math Learning Community discussion facilitator. Presented and led discussion on asynchronous versus synchronous instruction in online education. Cincinnati, OH.
2017	J. Sinclair. "Music Composition Utilizing Probabilistic Methods as an Applied Project in an Upper Level Statistics Course. AMS/MAA Joint Math Meetings. <i>Innovative Teaching Through Recreational Mathematics.</i> Atlanta, GA.
2016	J. Sinclair. "On Applications of Generalized Tempered Stable Processes." Probability Seminar. Department of Mathematics and Statistics. Invited Speaker. University of North Carolina, Charlotte, NC.
2016	J. Sinclair. "Music Composition using Markov Chains." School of Science and Technology STEM Symposium. Stone Mountain, GA.
2015	P. Boindala, N. Brewley, J. Sinclair. "Flipping the Pre-Calculus Classroom. School of Science and

- Technology STEM Symposium. Duluth, GA.
- 2014 P. Boindala, N. Brewley, J. Sinclair, K. Erickson. Flipping the Pre-Calculus Classroom – From Ideation to Execution. Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America. Baltimore, MD.
- 2014 P. Boindala, N. Brewley, J. Sinclair, K. Erickson. Planning and Executing a Flipped Pre-Calculus Course. Governor's Teaching Fellows – Teaching and Learning Conference. University of Georgia, Athens, GA.
- 2014 P. Boindala, N. Brewley, J. Sinclair, K. Erickson. Flipping the Pre-Calculus Classroom – Let's Talk Results and Student Feedback. SST STEM Symposium. Stone Mountain, GA.
- 2014 J. Sinclair, N. Brewley, P. Boindala, J. Whitener. A 10-week Research-based Learning Module for Statistics. SST STEM Symposium. Stone Mountain, GA. (poster)
- 2014 P. Boindala, N. Brewley, J. Sinclair, K. Erickson. Flipping the Pre-Calculus Classroom. SST STEM Symposium. Stone Mountain, GA. (poster)
- 2013 P. Boindala, N. Brewley, J. Sinclair, K. Erickson. Nuts and Bolts of Planning a Flipped Classroom in Higher Education. Lily Conference. Dayton, OH.
- 2013 J. Sinclair, N. Brewley, P. Boindala, J. Whitener. Incorporating an Undergraduate Researchbased Learning Module in an Introductory Statistics Course. The SoTL Commons Conference. Georgia Southern University, Statesboro, GA.
- 2013 N. Brewley, J. Sinclair, P. Boindala, J. Whitener. A Research-based Pilot Course for Statistics as a Component of a 4-Year Undergraduate Research Experience. The HETL Conference. University of Central Florida. Orlando, Florida.
- 2013 J. Sinclair, N. Brewley, P. Boindala, J. Whitener. A 10-week Research-based Learning Module for Statistics. SST STEM Symposium. Stone Mountain, GA.
- 2013 P. Boindala, N. Brewley, J. Sinclair, K. Erickson. Flipping the Pre-Calculus Classroom. SST STEM Symposium. Stone Mountain, GA.
- 2012 J. Sinclair, N. Brewley, P. Boindala. A Research-based Pilot Course for Statistics, as a Component of a 4-Year Undergraduate Research Experience. SST STEM Symposium. Stone Mountain, GA.
- 2012 K. Kakish, L. Pollacia, A. Heinz, J. Sinclair, A.Thomas. Analysis of the Effectiveness of Traditional Versus Hybrid Student Performance for an Elementary Statistics Course. The SoTL Commons Conference. Georgia Southern University, Statesboro, GA.
- 2011 J. Sinclair, C. Kilroe-Smith. Capturing Your Lectures Using ECHO 360. Georgia Gwinnett College, Lawrenceville, GA.
- 2009 J. Sinclair. Small and Large Scale Limits of Multi-fractal Stochastic Process. University of the South, Sewanee, TN.
- 2008 J. Sinclair. A General Approach to Small and Large Scale Limits of Multi-fractal Stochastic Processes Applied to Tempered Stable Processes. University of Tennessee, Knoxville, TN.
- 2007 J. Sinclair. Lévy Processes and Infinitely Divisible Distributions. Cornell University, Ithaca, New York.
- 2004 J. Sinclair. Interpreting pi as the slope of a line. Teacher In-service training day. Fulton High School, Knoxville, TN.

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#### CONFERENCES

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- Kappa Mu Epsilon Regional Convention  
*Lawrenceville, GA, 2018*
- AMS/MAA Joint Mathematics Meetings

- Atlanta, GA, 2017*
- SST STEM Symposium  
*Stone Mountain, GA, 2012, 2013, 2014, 2015, 2016*
  - SoTL (Scholarship of Teaching and Learning) Commons Conference  
*Savannah, GA, 2013*
  - SoTL Commons Conference  
*Statesboro, GA, 2012*
  - Seeking Evidence of Impact  
*Educause, online workshop, 2011*
  - Workshop on Infinitely Divisible Processes  
*CIMAT, Guanajuato, Mexico, 2009*
  - AMS/MAA Joint Mathematics Meetings  
*Washington, DC, 2009*
  - The Barrett Lectures; Special Topic: Stochastic Processes  
*University of Tennessee, Knoxville, 2009*
  - Mathematical Association of America Southeastern Sectional Meeting  
*The Citadel, Charleston, SC, 2008*

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#### UNDERGRADUATE RESEARCH PROJECTS

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Creativity, Research, Engagement, and the Arts Transform Everyone (CREATE)  
Symposium Student Presentations:

- Student: Paige Placido, 2015 (Faculty Sponsor: J. Sinclair)  
Title: "A Generalization of Bayes' Rule of Conditional Probability and Applications to CDC Cancer Registries in Gwinnett County"
- Student: Cristian Cardona, 2015 (Faculty Sponsor: J. Sinclair)  
Title: "Using Markov Chains to Create Melodies"

Science, Technology, and Research Show (STaRS)  
Student Poster:

- Student: Tayeba Mohammed, 2016 (Faculty Sponsor: J. Sinclair)  
Title: "Regression Analysis with CCPRI (College and Career Ready Performance Index) Scores"