



University of Colorado
Boulder

**Department of Mathematics
Graduation Ceremony
May 6, 2021**

**Dr. Alexander Gorokhovsky
Department Chair**

**Dr. Sergei Kuznetsov
Graduate Chair**

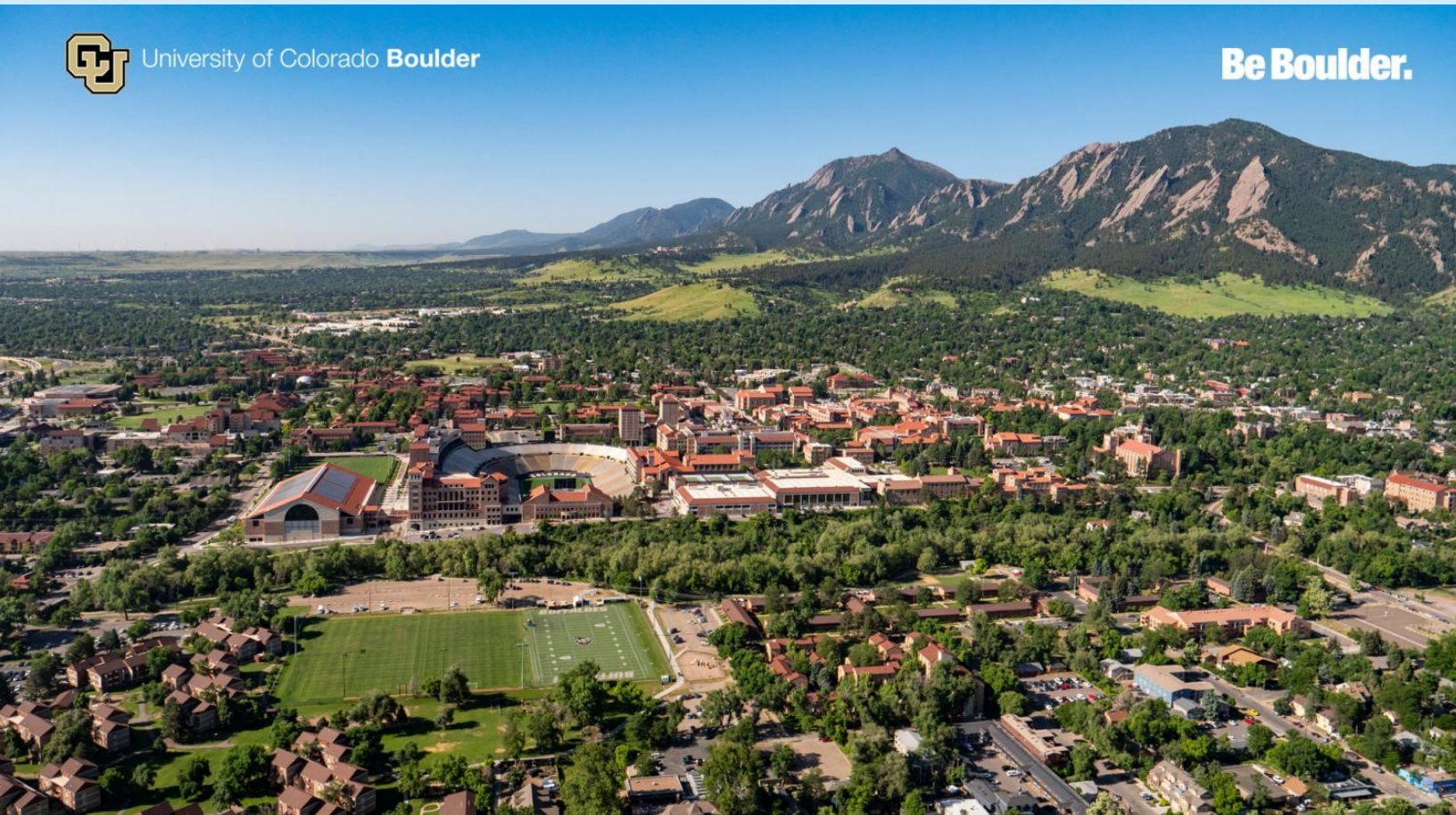
**Dr. Nathaniel Thiem
Undergraduate Chair**

Alma Mater

Hail, and hail our Alma Mater!
Ever will our hearts be true:
You will live with us forever,
Loyal we will be to you.
We will sing forever your praises,
Ever more our love renew,
Pledge our whole devotion to you.
Dear old CU!



Be Boulder.



This is the unofficial program of the May 2021 Commencement Exercises.

The official program will be archived in August 2021



Ceremony Order

Welcome Address

Dr. Alexander Gorokhovsky
Department Chair

Keynote Address

Marlene Massaro Pratto
CU Boulder Mathematics
Alum

Address to PhD Students

Dr. Sergei Kuznetsov
Graduate Chair

Presentation of PhD and
Concurrent Masters Students

Advising Faculty

Address to Baccalaureate
Students

Dr. Nathaniel Thiem
Undergraduate Chair

Presentation of Baccalaureate
Students Receiving Honors in
Mathematics

Presentation of Baccalaureate
Students



Marlene Massaro Pratto

***CU Boulder Mathematics
Alum***

Keynote Speaker

Marlene Massaro Pratto was born and raised in Pueblo, Colorado. She graduated from Central High School and entered the University of Colorado in Boulder. She majored in mathematics and worked for the National Bureau of Standards before and after graduation until 1969. After moving to Greensboro, North Carolina, she taught programming to the engineering faculty at North Carolina Agricultural & Technical State University. She later worked at the University of North Carolina at Greensboro (UNCG), where she occasionally taught a class, mostly in programming. Her major position at the University of North Carolina at Greensboro was in the user service area for faculty and students where she became director of Instructional and Research Computing. She served as secretary and president of Sigma Xi, Greensboro Branch. She left UNCG in 1995 and became an active volunteer. She is the mother of four and grandmother of seven.



Graduate Degrees in Mathematics



PhD in Mathematics

University of Colorado Boulder

Braden Loil Balentine, PhD

Graduate Advisor: Dr. Magdalena Czubak

Thesis Title: *Well-posedness and Global Time Behavior for L^p -mild Solutions to the Navier-Stokes Equation on the Hyperbolic Space*

Ruofan Li, PhD

Graduate Advisor: Dr. Su-Ion Ih

Thesis Title: *Primitive prime divisors, rings of integers and class numbers in arithmetic dynamics*

Shen Lu, PhD

Graduate Advisor: Dr. Judith Packer

Thesis Title: *Morita Equivalence of Irrational Noncommutative Solenoids*

Dr. Matthew Carter Pierson, PhD

Graduate Advisor: Dr. Alexander Gorokhovsky

Thesis Title: *Some Applications of a Duality in Cyclic Homology*



PhD in Mathematics

University of Colorado Boulder

Carlos Enrique Pinilla-Suarez, PhD

Graduate Advisor: Dr. Magdalena Czubak

Thesis Title: *Hodge decomposition for the Sobolev space H^1 on a space form of nonpositive sectional curvature*

Albany Rose Thompson, PhD

Graduate Advisor: Dr. Magdalena Czubak

Thesis Title: *Foundations of the Steady Navier-Stokes Equation on the Hyperbolic Space*

James Robert Van Meter, PhD

Graduate Advisor: Dr. Emanuel Knill, NIST

Co-Advisor: Dr. Richard Green

Dissertation Title: *Universality of swap for qudits: a representation theory approach*



Masters in Mathematics

University of Colorado Boulder

Christopher Eblen, MS

Graduate Advisor: Dr. Nathaniel Thiem

Parker John Eckstein Gara, MS

Graduate Advisor: Dr. Markus Pflaum

Project Title: *Finding Singularities in Real Algebraic Varieties*

Yuwei Jia, MA

Graduate Advisor: Dr. Sean O'Rourke

Project Title: *Sample covariance matrix estimation for sub-Gaussian random vectors*

Erik Knutsen, MS

Graduate Advisor: Dr. Agnès Beaudry

Isabelle Krause, MA

Graduate Advisor: Dr. Sean O'Rourke

Project Title: *Sums of random polynomials with different degrees*

Trevor Manders, MA

Graduate Advisor: Dr. Nancy Rodriguez

Thesis Title: *(in progress)*

Ian Miller, MS

Graduate Advisor: Dr. Magdalena Czubak

Concurrent Degrees in Mathematics

University of Colorado Boulder

Yechun Cheng, BA/MS

Graduate Advisor: Dr. Markus Pflaum

Thesis Title: *An overview of Topological Data Analysis and its application in meteoritic data*

Max Samuel Howard, BA/MS

**Graduate Advisor: Dr. Sergei Kuznetsov, MATH
and Dr. Jem Corcoran , APPM**

Project Title: *Fast Perfect Sampling of Linear Extensions*



I am a Math Buff.



Baccalaureate Degrees in Mathematics



Honors in Mathematics

University of Colorado Boulder

Tobias Aldape: *magna cum laude* in Mathematics

Advisor: Dr. Jonathan Wise

Thesis Title: Affine Manifolds and the Universal Cover of the Punctured Plane

Jenna Marie Allen: *summa cum laude* in Mathematics

Advisor: Dr. Jonathan Wise

Thesis Title: Exploring Quadratic Form Composition on Conway's Topograph

Khaled Charles Allen: *summa cum laude* in Mathematics

Advisor: Dr. Divya Vernerey

Thesis Title: An Exploration of Quantum Game Theory and its Applications

Hannah Lee Beehler: *summa cum laude* in Mathematics

Advisor: Dr. Eric Stade

Thesis Title: Order of Operations and Commutativity in Calculus: An Examination of Student Thought and Reasoning With Respect to the Product Rule

Thomas Michael Magnuson: *magna cum laude* in Mathematics

Advisor: Dr. Tianyaun Xu

Thesis Title: Fully Commutative Elements in $G(d,7,n)$ and A 2-Panel Window Presentation

Kyle Schneider: *magna cum laude* in Mathematics

Advisor: Dr. Sean O'Rourke

Thesis Title: Uncontrollable Networks for Laplacian Leader-Follower Dynamics

**December 2020 Baccalaureate
Degrees in Mathematics
University of Colorado Boulder**

Athbi Aljadi

Jenna Marie Allen* ★

Khaled Charles Allen* ★

Anakata Aschenbrenner

Yechun Cheng

Sydney Rose Dempsey

Sam Ellis

Ziyue Guo

Yuang Han

Thomas Wyatt Heckmaster ★

Liam Thomas Herrick

Max Samuel Howard

Xintao Hu

Siyuan Huang

Marie Jeffries

Ryan Karasopoulos

Cedric Kram

Zhengkai Lu

** Mathematics Honors: summa cum laude*

*** Mathematics Honors: magna cum laude*

**** Mathematics Honors: cum laude*

★ "with distinction"

π Pi Mu Epsilon Math Honor's Society

Φ Phi Beta Alpha Kappa Honors

**December 2020 Baccalaureate
Degrees in Mathematics
University of Colorado Boulder**

**Yitao Luo
Edward MacDonald
Bingham Mitchell
Ethan Myers
Adam Nelson ★
Chun Ni
Tianxiang Ouyang
Mohammad Rashed Ozaslan ★
Romel Antonia Perry Powell Serrano
Teague Powers
Adam Sanchez
Anna Sanders
Robert Jackson Ward Virany
Rui Wan
Xiaoyue Wen
Yi Xu
Kaiyuan Zhang
Miao Zhang
Maximilian Julius Zim
Anand Zupa**

** Mathematics Honors: summa cum laude*

*** Mathematics Honors: magna cum laude*

**** Mathematics Honors: cum laude*

★ “with distinction”

π Pi Mu Epsilon Math Honor's Society

Φ Phi Beta Alpha Kappa Honors

May and August 2021 Baccalaureate Degree Candidates in Mathematics University of Colorado Boulder

Tobias Aldape**

Abdul Rahman Ibrahim Al-Dhahab

Haya Kh J S AlNusif

Emily JoAnne Alsko

Nicholas Anastasi ★ π

Dylan Small Anderson

Avery Arjang

Cory Richard Armijo

Riccardo Arossa

Eduardo Joan Arzabala

Ethman Ethan Russell Ayari

Hannah Lee Beehler *★ π Φ

Ellie Rebecca Bowers ★ π

Jenna R. Buto

Hanrong Cai

Nicholas Dane Cambria

David Thomas Carney

Baily Lynn Cechini

Elizabeth Beardsley Chambers

* *Mathematics Honors: summa cum laude*

** *Mathematics Honors: magna cum laude*

*** *Mathematics Honors: cum laude*

★ *"with distinction"*

π *Pi Mu Epsilon Math Honor's Society*

Φ *Phi Beta Alpha Kappa Honors*

May and August 2021 Baccalaureate Degree Candidates in Mathematics University of Colorado Boulder

Zhuoyi Chen π
Tian Cheng
Julia Christine Conn π
Emily Caitlin Daugstrup
Alexis Ashley Davis $\star\pi$
Ariadne Shanti del Valle
Emma Grace Devin \star
Jackson Anders Earles $\star\pi\Phi$
Alici Ribeiro Edwards $\star\pi$
Ezzeddine El Sai π
Steven Flory
Mathieu Foucher
Allison Michelle Frandsen
Zhengjia Fu
Parker John Eckstein Gara \star
Ragan Nicole Garner
Evan Graves
Samuel David Greenidge $\star\pi$
Ian James Greenstreet

** Mathematics Honors: summa cum laude*

*** Mathematics Honors: magna cum laude*

**** Mathematics Honors: cum laude*

\star "with distinction"

π Pi Mu Epsilon Math Honor's Society

Φ Phi Beta Alpha Kappa Honors

May and August 2021 Baccalaureate Degree Candidates in Mathematics University of Colorado Boulder

Spencer Griffith ★ π
Arpiar Avetis Grigorian
Jianting Han
Michael Vincent Hasenkamp
Brice Wayne Hawley Jr.
Daryn Kenji Higaki
Hayden Spicer Hollis
Maxwell Whittman Holloway
Yuanyuan Hou
Abigail Leigh Howk
Jiajun Hu
Zhen Hu
Puhe Jia
Cheng Jiang ★ π
John Lee Julich
Matthew Kane
Medhane Mebrahtu Kiflom π
Jennah Ellen Lacy
Oscar H. Laird ★ π

* *Mathematics Honors: summa cum laude*

** *Mathematics Honors: magna cum laude*

*** *Mathematics Honors: cum laude*

★ *“with distinction”*

π *Pi Mu Epsilon Math Honor's Society*

Φ *Phi Beta Alpha Kappa Honors*

**May and August 2021 Baccalaureate
Degree Candidates in Mathematics
University of Colorado Boulder**

**Muqing Li
Amanda Renee Liddle
Songwei Liu
Xingyu Liu
Madsen Micklow Lozuaway-McComsey
Sitong Lu
Thomas Michael Magnuson**
Jim Joseph Martinez III
Graham Gregory Massimino
Donavon John McDowell
Jacob L. McKean
Michael Magee McMahon
Francesca Soraya Yazdi McWilliams
Aaron Michael Miller
Alexis S. Montague ★
Katie Diane Moran
Erin Morrow
Ford Mulligan
Aaron Michael Mutchler**

** Mathematics Honors: summa cum laude*

*** Mathematics Honors: magna cum laude*

**** Mathematics Honors: cum laude*

★ "with distinction"

π Pi Mu Epsilon Math Honor's Society

Φ Phi Beta Alpha Kappa Honors

May and August 2021 Baccalaureate Degree Candidates in Mathematics University of Colorado Boulder

Joshua Lee Paup

Madeline McCully Pettine ★

Wei Qu ★ π

Braeden Joseph Allen Righthouse

Alexander C. Rodriguez

Brenna Caroline Royersmith ★ π

ZeWen Rui

Henry Saliski

Katelyn Rose Salzberg

Samuel David Scheeres ★ π

Kyle Vincent Schneider** π

Natalie Ann Schoenhals

Bentley Cortlund Scholz ★

William Clark Schooleman IV

Samuel Peter Serra ★

Michel Stahli ★ π

Alexander Johannes Strating

Yue Sun

Rachel Yuanxi Swanson ★ Φ

** Mathematics Honors: summa cum laude*

*** Mathematics Honors: magna cum laude*

**** Mathematics Honors: cum laude*

★ "with distinction"

π Pi Mu Epsilon Math Honor's Society

Φ Phi Beta Alpha Kappa Honors

May and August 2021 Baccalaureate Degree Candidates in Mathematics University of Colorado Boulder

Christopher Ryan-Schwaninger Taylor

Sandra Alexis Tredinnick

Amanda Villalobos

Elizabeth Jane Wagner

Connor Mason Weisburg ★ π

Maximillian Anthony Wiesner

Vihanga Kavin Wijesekara

Chase Wilson

Ethan Nicholas Wolf

Yiqing Xue

Emily Anne Yanchak

Yue Yang

Chance Takeshi Beyer Yung ★

Shiyue Zhang

Shuning Zhang

Xiaodong Zheng

Zemin Zhou

* *Mathematics Honors: summa cum laude*

** *Mathematics Honors: magna cum laude*

*** *Mathematics Honors: cum laude*

★ *"with distinction"*

π *Pi Mu Epsilon Math Honor's Society*

Φ *Phi Beta Alpha Kappa Honors*



YOU DID IT!





Mathematics Awards and Scholarships

Burton W. Jones Teaching Excellence Award

- Shen Lu—2020
- Matthew Carter Pierson - 2019

Jack Hodges Award for Excellence in Mathematics

- Jenna Marie Allen - 2018

Mr. & Mrs. J. Tour Scholarship

- Chance Takeshi Beyer Yung - 2020

Marlene Massaro and David Pratto Scholarship in Mathematics

- Samuel David Scheeres - 2020

Collin Starkweather Award in Mathematics

- Samuel Peter Serra - 2020

Jack N. Hyatt Endowment in Mathematics

- Rachel Yuanxi Swanson - 2019

Frances C. Stribic Scholarship

- Braden Loil Balentine - 2018
- Ruofan Li - 2019
- Shen Lu - 2018

Richard Laver Graduate Fellowship Fund

- Ruofan Li - 2020

The Adele V. Leonhardy Memorial Scholarship Fund

- Shen Lu - 2019
- Carlos Enrique Pinilla-Suarez - 2018
- Albany Rose Thompson - 2020

Sieglinde Haller Scholarship

- Tobias Aldape - 2020
- Khaled Charles Allen - 2019, 2020
- Braden Loil Balentine - 2020
- Alici Ribeiro Edwards - 2019
- Parker John Eckstein Gara - 2020
- Ruofan Li - 2017, 2018
- Adam Nelson - 2020
- Matthew Carter Pierson - 2019
- Carlos Enrique Pinilla-Suarez - 2016, 2020
- Wei Qu - 2019
- Brenna Caroline Royersmith - 2020
- Bentley Cortlund Scholz - 2018, 2020
- Samuel Peter Serra - 2019

William Lowell Putnam Mathematical Competition Winners

- Tobias Aldape - 2017, 2019
- Jenna Marie Allen - 2019
- Samuel Peter Serra - 2018

W. J. Thron Summer Fellowship

- Matthew Carter Pierson - 2018

University Summer Fellowship

- Braden Loil Balentine - 2019
- Christopher Eblen - 2021
- Erik Knutsen - 2021
- Isabelle Kraus - 2021
- Ian Miller - 2021
- Shen Lu - 2020
- Matthew Carter Pierson - 2020
- Carlos Enrique Pinilla-Suarez - 2017, 2019
- Albany Rose Thompson - 2019



Pi Mu Epsilon (PME) Math Honor's Society

**Nicholas Anastasi
Hannah Lee Beehler
Ellie Rebecca Bowers
Zhuoyi Chen
Julia Christine Conn
Alexis Ashley Davis
Jackson Anders Earles
Alici Ribeiro Edwards
Ezzeddine El Sai
Samuel David Greenidge
Spencer Griffith
Cheng Jiang
Medhane Mebrahtu Kiflom
Oscar H. Laird
Wei Qu
Brenna Caroline Royersmith
Samuel David Scheeres
Kyle Vincent Schneider
Michel Stahl
Connor Mason Weisburg**

Τὴν παιδείουσιν καὶ τὰ μαθηματικὰ ἐπιστεύδειν



Donors to the Mathematics Department

The Mathematics Department is deeply grateful for the generous contributions by our donors. Gifts to the department make possible scholarships, awards, and more. Our alumni and friends are the cornerstone of future success for today and tomorrow's students. If you are interested in becoming a donor we would love your support! Please contact our development coordinator

Jenny Milligan, Jennifer.Milligan@colorado.edu, or

Professor David Grant, grant@colorado.edu, to discuss

options. You may also go to math.colorado.edu and click the "Give Now" button.

Thank you!

**this is not an official document. Names and recognitions may be subject to change*