Dr. Thomas R. Cech



Nobel Laureate (Chemistry 1989), distinguished professor, scientist, educator, and biotechnology founder.

After earning his Ph.D. in chemistry from UC Berkeley and postdoctoral research at MIT, Thomas R. Cech joined the faculty of the University of Colorado Boulder in 1978. In 1982, Dr. Cech and his research group announced that an RNA molecule from a pond animal could by itself catalyze biochemical reactions, the first exception to the long-held belief that only proteins could act as enzymes. This discovery led to the first Nobel Prize in the state of Colorado (1989).

From 2000 to 2009, Dr. Cech served as President of HHMI in Maryland. He then returned to research and teaching at CU Boulder and became the founding Director of the BioFrontiers Institute.

While Dr. Cech continues to run an active research lab, he is also committed to sharing science with the public. His book, *The Catalyst*, published by W.W. Norton in 2024, tells stories about RNA discoveries at a non-technical level.

Dr. Cech was awarded the National Medal of Science (1995) and has been elected to the U.S. National Academy of Sciences (1987) and the National Institute of Medicine (2000).



The Catalyst: RNA and the Quest to Unlock Life's Deepest Secrets, explores the most transformative breakthroughs in biology since the discovery of the double helix, unveiling the RNA age. The Catalyst is a guide to the present and future of biology and medicine.



CLASS OF 2025

GRADUATE RECOGNITION CEREMONY MAY 9, 2025



Procession

Welcome Dr. Kristen Roy Director of Biochemistry Teaching Labs

Remarks Dr. James Goodrich Chair, Department of Biochemistry

Graduation Address Dr. Thomas Cech Distinguished Professor of Biochemistry

Hooding and Presentation of Advanced Degree Candidates

> Undergraduate Student Honors & Awards

Presentation of Bachelor's Degree Candidates

Closing Remarks



Photographs taken by the department photographer may be downloaded free of charge at this link after June 15, 2025.

Reception

Cover artwork credit: Biofrontiers, University of Colorado Boulder

BACHELOR OF ARTS

Sweta Alla Dhuha AlQallaf Aysegul Arslan Mehmet Arslan Sam Nyein Aung Yvette Barrales-Fenner Sophie Blanc Seamus Brady Chase Brucher Michael Jentry Carpenter Julianna Chancey Nathan Chrisman Abby Consiglio Kayla Cook Brayden Lee Curry Noel Downing Kevin Ember Seamus Ennis Carla Eyre Patrick Frankel McKenzie Gallagher Audrey Griffith Jocelyn Gunn Rachel Hannah Hare Lainie Harris Thomas Hartman **Kienan Higgins** Joyce Huang Eliot Hunsberger Sarah Huynh Kelly Johnson Mariam Jubarah William Kelly Quinten Kinney Madeline Langan Alyx Lanthier

Eyosias Lemma Kane Logan Ashleigh Manney Kayla Mash Keiran McGee Julia Ana Mirita Luis Molina-Saenz Maxwell Morris Katherine Morrow Jack Kolby Needy Thinh Trieu Nguyen Grace O'Meara Andrew Osburn Ebert Rascon Perez Lauren Celeste Phillips Armando Duarte Piña Lina Qutainah **True Rappold** Jacob Reinholtz Albert Richlie **Bailey Roberts** Owen Rung Nicholas Ryan Noura Sarsam Justin Saunders Chandrika Singh Rhea Bincy Skariah Damian Sonsino Mila Stanojevic Adeline Steinwagner Ella Stevens Sean Storm Aanya Thapa Nicholas Torres Alecxander Villavicencio Liam Walter

ADVANCED DEGREES

Stephen Archuleta, PhD Understanding the Mechanisms of RNA Polymera Dynamics Using Single Molecule Microscopy	Advisors: James Goodrich & Jennifer Kugel ase II Transcription and the Regulation of TFIIE
Hannah Arthur, MS An Investigation of the Molecular Architecture of t	Advisor: Halil Aydin Oligomeric Human Transmembrane Protein 70
Whitney Bergman, PhD Development and Utilization of a Quantitative Fluc Folding to Reveal Mechanistic Insight into the Ber	Advisor: Marcelo Sousa prescent Reporter of Outer Membrane Protein ta Barrel Assembly Machine
Clair Huffine, PhD Glow with the Flow: Using Time-lapse Fluorescen Dynamics	Advisor: Jeffrey Cameron ace Microscopy to Uncover Carboxysome Redox
Emily Kibby, PhD NLR-Related Proteins in Bacterial Immune Signal	Advisor: Aaron Whiteley ing Certificate
Logan McCoy, MS Coursework Fall 2024	Advisor: Robert Batey
Varuna Nangia, PhD Defending summer 2025	Advisor: Sabrina Spencer
Megan Palacio, PhD Real-time visualization of human transcription on activation mechanisms	Advisor: Dylan Taatjes single promoters reveals RNA polymerase II
Victor Passanisi, PhD Advisor: Sabrina Spencer Progressive States of Cell-Cycle Withdrawal in Cellular Aging and Replicative Senescence Induction	
James Pratt, PhD Polyserine-tau interactions modulate tau fibrilizati	Advisor: Roy Parker
Erin Richards, PhD Improvement and characterization of Riboglow, a	Advisor: Amy Palmer tool to fluorescently visualize RNA in live cells
Savannah Spradlin, PhD Understanding Degenerate Specificity and Genet Riboswitch	Advisor: Robert Batey ic Regulation of the Bacillus Subtilis yjdF
Calvin Voong, PhD Investigating the mechanisms of HMGB1 movem microscopy	Advisors: James Goodrich & Jennifer Kugel ent between DNA using single molecule TIRF
Kaitlyn Walsh, PhD Mechanistic Changes in Transcription Terminatior	Advisors: James Goodrich & Jennifer Kugel

Karl Widney, PhD Evolution of Novel Metabolic Pathways

Advisor: Shelley Copley

LATIN HONORS in Biochemistry

Undergraduate students receiving Latin Honors must complete significant research in collaboration with a faculty member, write a thesis and complete an oral defense.

Noel Downing SUMMA CUM LAUDE Advisor: Robert Kuchta DNA Oligomers Containing Alloxazine in Place of Thymine: Interactions Between DNA Strands

Kevin Ember*SUMMA CUM LAUDEAdvisor: Michael StowellStructural Analysis of OSK1 Binding to Nicotinic Acetylcholine Receptors UsingCryogenic Electron Microscopy

Lainie HarrisSUMMA CUM LAUDEAdvisor: Xiang WangExtended Structure-Activity Relationship Studies of [1,2,5]Oxadiazolo[3,4-b]pyrazine-
Containing Resistance-Modifying Agents for Colistin-Resistant Gram-Negative Bacteria

Eliot Hunsberger SUMMA CUM LAUDE Advisor: Karolin Luger Analysis of Heimdall HA Archaeal Histone Tail Effects on Histone Dimerization and DNA Binding

Alyx LanthierSUMMA CUM LAUDEAdvisor: Amy PalmerZinc's impact on triple-negative breast cancer: investigating cell viability and apoptosis

Kayla MashMAGNA CUM LAUDEAdvisor:Kristi AnsethEstablishing the role of integrin signaling in vitro to drive osteocytogenesis and osteocyte
dendritic network formationAdvisor:Kristi Anseth

Keiran McGee MAGNA CUM LAUDE Advisor: Amy Palmer Optimization of a Native RNA Purification Method for Application in the Production of RNA-Based Biosensors

Julia Ana MiritaSUMMA CUM LAUDEAdvisor: Jennifer KugelCharacterizing heat shock-induced mRNA produced past the 3' end of genes

Albert RichlieMAGNA CUM LAUDEAdvisor: Dylan TaatjesAn Optimized Protocol for Suspended Solids Determination and Periphyton Biofilm EPSExtraction

Nicholas Ryan⁺ SUMMA CUM LAUDE Advisor: Maciej Walczak Sterospecific Oxidative Contractions of SI-linked Glycomimetics

 Damian Sonsino
 SUMMA CUM LAUDE
 Advisor: Karolin Luger

 Characterization of bacterial putative histones in Leptospira interrogans

* Indicates student completed thesis in the Department of Molecular Cellular & Developmental Biology

+ Indicates student completed thesis in the Department of Chemistry

UNDERGRADUATE AWARDS & HONORS

American Institute of Chemists Award

Awarded in recognition of a demonstrated record of leadership ability, character, scholastic achievement, and advancement potential in the chemical professions.

Damian Sonsino

Outstanding Biochemistry Graduate

Awarded in recognition of exceptional scholarly achievement, research accomplishments and community engagement.

Kayla Mash

Graduation with Distinction

With distinction honors are awarded to students who have completed a minimum of 30 credit hours at the University of Colorado with a cumulative GPA of 3.75 or higher.

Noel Downing	Thomas Hartman
Patrick Frankel	Eliot Hunsberger
McKenzie Gallagher	Thinh Trieu Nguyen
Audrey Griffith	Lauren Celeste Phillips
Jocelyn Gunn	Owen Rung
Lainie Harris	