

PHILLIP E.C. COMPEAU
Curriculum Vitae

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Carnegie Mellon University
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EDUCATION

2024	<i>MBA with University Honors</i>	Tepper School of Business, CMU
2014	<i>Ph.D. Mathematics</i>	University of California San Diego
2010	<i>M.A. Mathematics</i>	University of California San Diego
2009	<i>Master of Adv. Study in Mathematics</i>	Cambridge University
2008	<i>B.S. Magna cum laude, Mathematics</i>	Davidson College

PROFESSIONAL APPOINTMENTS

2020-	<i>Associate Teaching Professor</i> Computational Biology Department Carnegie Mellon University
2021-	<i>Assistant Department Head</i> Computational Biology Department Carnegie Mellon University
2019-	<i>Co-Founder and Co-Director, PreCollege Program in Computational Biology</i> Computational Biology Department Carnegie Mellon University
2016-	<i>Program Director, BS in Computational Biology</i> Computational Biology Department Carnegie Mellon University
2017-2021	<i>Assistant Department Head for Education</i> Computational Biology Department Carnegie Mellon University
2015-2021	<i>Co-Assistant Director, MS in Computational Biology</i> Computational Biology Dept. and Dept. of Biological Sciences

2015-2020 Carnegie Mellon University
Assistant Teaching Professor
Computational Biology Department
Carnegie Mellon University

2014-2015 *Assistant Project Scientist*
Computer Science & Engineering Department
University of California San Diego

2012- *Co-Founder, Rosalind educational website* (rosalind.info)
Computer Science & Engineering Department
University of California San Diego

2009-2014 *Teaching/Research Assistant*
Department of Mathematics
University of California San Diego

PUBLICATIONS

Textbooks

- 2022 *Biological Modeling: A Short Tour*. P. Compeau. Philomath Press.
- 2022 *Bioinformatics Algorithms: An Active Learning Approach*, Korean Edition. P. Compeau and P. Pevzner. Acorn Publishing.
- 2018 *Bioinformatics Algorithms: An Active Learning Approach*, 3rd Ed. P. Compeau and P. Pevzner. Active Learning Publishers. ISBN: 978-0-9903746-3-3.
- 2015 *Bioinformatics Algorithms: An Active Learning Approach*, 2nd Ed. Vols. 1 and 2. P. Compeau and P. Pevzner. Active Learning Publishers. ISBNs: 978-0-9903746-1-9; 978-0-9903746-2-6.
- 2015 *Finding Hidden Messages in DNA*. P. Compeau and P. Pevzner. Active Learning Publishers. (E-book.)
- 2014 *Bioinformatics Algorithms: An Active Learning Approach*, 1st Ed. P. Compeau and P. Pevzner. Active Learning Publishers. ISBN: 978-0-9903746-0-2.

Refereed Journal Articles

- 2019 "Establishing a computational biology flipped classroom." P. Compeau. *PLOS Computational Biology*. (Online only: <https://doi.org/10.1371/journal.pcbi.1006764>.)
- 2015 "Life After MOOCs: Online Science Education Needs a New Revolution." P. Compeau and P.A. Pevzner. *Communications of the ACM*. 58:10, 41-44.
- 2013 "DCJ-indel sorting revisited." P. Compeau. *Algorithms for Molecular Biology*. 8:6.

- 2011 "How to apply de Bruijn graphs to genome assembly." P. Compeau, P.A. Pevzner, and G.P.Tesler. *Nature Biotechnology*. 29, 987-991.
- 2011 "Girth of pancake graphs." P. Compeau. *Discrete Applied Mathematics*. 159:15, 1641-1645.
- 2010 "Bacterial computing: using *E. coli* to solve the burnt pancake problem." M.L. Broderick, P. Compeau, J.O. Dickson, W.L. Harden, L. Heyer, J. Poet. *Math Horizons*. 17:3, 5-10.

Conference Proceedings

- 2014 "A generalized cost model for DCJ-indel sorting." P. Compeau. *Lecture Notes in Computer Science*. 8701, 38-51.
- 2012 "A simplified view of DCJ-indel distance." P. Compeau. *Lecture Notes in Computer Science*. 7534, 365-377.

Textbook Chapters

- 2012 "Genome reconstruction: A puzzle with a billion pieces." P. Compeau and P.A. Pevzner. *Bioinformatics for Biologists*. Cambridge University Press

AWARDS & HONORS

- 2022 Herbert A. Simon Award for Teaching Excellence in Computer Science
- 2021 Who's Who in Sciences Higher Education
- 2020 Falling Walls Digital Education Breakthrough Nominee (with J. Kangas)
- 2020 A. Nico Habermann Educational Service Award
- 2019 Carnegie Mellon University Teaching Innovation Award Finalist
- 2010 Achievement Awards for College Scientists Fellowship
- 2009 W. Thomas Smith Scholarship
- 2008 Phi Beta Kappa

GRANTS

- 2017-2022 *National Institutes of Health, P41 GM103712*
 Total Award: \$425,000
 Role: Principal Investigator
- 2018-2019 *Berkman Faculty Development Fund: Three Rivers Metagenomics*

- Total Award: \$5,600
Role: Co-Principal Investigator (with Joshua Kangas)
- 2016-2018 *National Science Foundation, 1616492*
Total Award: \$518,118
Principal investigator: Robert F. Murphy
Role: Key Personnel
- 2014-2016 *National Institutes of Health, R25 GM114819-01*
Total Award: \$600,000.
Principal Investigator: Pavel Pevzner.
Role: Visiting Scientist.
- 2014-2015 *Innovative Learning Technology Initiative: Bioinformatics for Biologists*
Total Award: \$200,000.
Principal Investigator: Pavel Pevzner.
Role: Key Personnel.

CONFERENCE ACTIVITY

Committees

- 2024 Program Committee. 32nd Conference on Intelligent Systems for Molecular Biology (ISMB). Montreal, Canada.
- 2023 Program Committee. 31st Conference on Intelligent Systems for Molecular Biology (ISMB). Lyon, France.
- 2022 Program Committee. RECOMB Satellite Conference on Bioinformatics Education. San Diego, California.
- 2022 Program Committee. 30th Conference on Intelligent Systems for Molecular Biology (ISMB). Virtual conference.
- 2021 Program Committee. 29th Conference on Intelligent Systems for Molecular Biology (ISMB). Virtual conference.
- 2020 Program Committee. 28th Conference on Intelligent Systems for Molecular Biology (ISMB). Virtual conference.
- 2019 Program Committee. 27th Conference on Intelligent Systems for Molecular Biology (ISMB). Basel, Switzerland.
- 2015 Program Committee, Organizing Committee (chair). RECOMB Satellite Conference on Bioinformatics Education. Howard Hughes Medical Institute, Chevy Chase, USA.
- 2012 Program Committee, Organizing Committee. RECOMB Satellite Conference on Bioinformatics Education. St. Petersburg, Russia.

2011 Organizing Committee (chair). RECOMB Satellite Conference on Bioinformatics Education. Vienna, Austria.

Papers Presented

2014 "A generalized cost model for DCJ-indel sorting." 14th Workshop on Algorithms in Bioinformatics (WABI). Wroclaw, Poland.

2012 "A simplified view of DCJ-indel distance." 12th Workshop on Algorithms in Bioinformatics (WABI). Ljubljana, Slovenia.

Invited Talks

2024 "Six Years of a PreCollege Program in Computational Biology". Great Lakes Bioinformatics Conference (GLBIO).

2024 "An Introductory Course in Computational Biology for First Year Undergraduates". Integrating Bioinformatics into the Undergraduate Classroom. Virtual seminar organized by Genetics Society of America and Brewmor.

2023 "Teaching a PreCollege Program in Computational Biology". Nanopore Network meeting. DNA Learning Center, Cold Spring Harbor Laboratory (remote).

2022 "Scalable Online Education and Student-Centric Administration". Kenyon College.

2021 "Undergraduate and High School Computational Biology Education at Carnegie Mellon". Omics Research Symposium, hosted by Pine Biotech.

2021 "Computational Biology Education at Carnegie Mellon University". 5th Annual Translational and Transformative Informatics Symposium (ATTIS 2021). University of Alabama at Birmingham.

2021 "Building a Research-Based Bioinformatics Education Program for High School Students" (with Josh Kangas). Bio-IT World Conference and Expo. Virtual meeting.

2021 "RNA sequencing". Online guest lecture for students from UC San Diego, St. Petersburg Academic University, Princeton University, and Johns Hopkins.

2020 "Teaching a Pre-College Program During a Pandemic". Annual meeting of Bioinformatics Education for Students (BEST) teachers at Pittsburgh Supercomputing Center. Virtual meeting.

2020 "An Introduction to Modern Computational Biology through Microbiome Research for High School Students". Education Community of Special Interest (COSI) meeting at the 28th Conference on Intelligent Systems for Molecular Biology (ISMB). Virtual meeting.

- 2019 “The Pre-College Program in Computational Biology at CMU”. Annual meeting of Bioinformatics Education for STudents (BEST) teachers at Pittsburgh Supercomputing Center.
- 2018 “Establishing a Computational Biology Flipped Classroom”. Education Community of Special Interest (COSI) meeting at the 26th Conference on Intelligent Systems for Molecular Biology (ISMB). Chicago, Illinois.
- 2017 “Life after MOOCs”. NIH Informatics Technology for Cancer Research PI Meeting.
- 2016 Bioinformatics flipped class (with P. Pevzner). Research in Computational Molecular Biology (RECOMB). Santa Monica, USA.
- 2015 “Life after MOOCs.” ELIXIR-GOBLET workshop: defining an e-learning lingua franca. Ljubljana, Slovenia.
- 2014 “The first (English-language) bioinformatics MOOC: Lessons Learned.” RECOMB Satellite Conference on Bioinformatics Education. Pittsburgh, USA.
- 2013 “Rosalind: free bioinformatics education via online introductory programming.” Joint Mathematics Meetings. San Diego, USA.
- 2012 “Rosalind: learning bioinformatics through programming.” Toward the 3-D Virtual Cell. La Jolla, USA.

Special Sessions

- 2024 Student-Focused Session: Navigating In-Person Conferences. Faculty advisor. Great Lakes Bioinformatics Conference.

Discussion Panels

- 2023 “What will bioinformatics training and learning look like in the age of ChatGPT and AI?” Life Science Trainers Community Discussion.
- 2021 “Online and hybrid education post-COVID”. 29th Conference on Intelligent Systems for Molecular Biology (ISMB). Virtual conference.
- 2021 “Bioinformatics Education Panel”. 5th Annual Translational and Transformative Informatics Symposium (ATTIS 2021). University of Alabama at Birmingham.
- 2019 Faculty panel, 10th Year Anniversary Celebration of Computational Biology Department.
- 2012 “How do we teach bioinformatics to 10,000 students at the same time?” RECOMB Satellite Conference on Bioinformatics Education. St. Petersburg, Russia.

Other Meetings Attended

- 2018 MMBioS Biophysics Workshop. Pittsburgh Supercomputing Center.
2017 MMBioS Cell Modeling Workshop. Pittsburgh Supercomputing Center.
2016 Concept inventory hackathon for bioinformatics (led by Chris Lee). University of California Los Angeles.

TEACHING (OFFLINE)

Carnegie Mellon University

- Spring 2024 02-251: *Great Ideas in Computational Biology*
 02-500: *Undergrad Research in Computational Biology*
 02-604: *Fundamentals of Bioinformatics*
- Fall 2023 02-601: *Programming for Scientists*
 02-500: *Undergrad Research in Computational Biology*
- Summer 2023 02-000: *Pre-College Program in Computational Biology* (with J. Kangas)
 Programming for Scientists Bootcamp
- Spring 2023 02-251: *Great Ideas in Computational Biology*
 02-500: *Undergrad Research in Computational Biology*
 02-604: *Fundamentals of Bioinformatics*
- Fall 2022 02-601: *Programming for Scientists*
 02-500: *Undergrad Research in Computational Biology*
- Summer 2022 02-000: *Pre-College Program in Computational Biology* (with J. Kangas)
 02-090: *Computational Biology Internship*
 Programming for Scientists Bootcamp
- Spring 2022 02-251: *Great Ideas in Computational Biology*
 02-500: *Undergrad Research in Computational Biology*
 02-604: *Fundamentals of Bioinformatics* (with M. Guler)
- Summer 2021 02-000: *Pre-College Program in Computational Biology* (with J. Kangas)
 02-090: *Computational Biology Internship*

	<i>03-601: Computational Biology Internship</i>
Spring 2021	<i>02-251: Great Ideas in Computational Biology</i> <i>02-790: Computational Biology Internship</i>
Fall 2020	<i>02-601: Programming for Scientists</i> <i>02-602: Professional Issues in Computational Biology (with D. Brasier)</i> <i>02-604: Fundamentals of Bioinformatics</i>
Summer 2020	<i>02-000: Pre-College Program in Computational Biology (with J. Kangas)</i> <i>03-601: Computational Biology Internship</i> <i>99-405: Summer Directed Study</i>
Spring 2020	<i>02-251: Great Ideas in Computational Biology</i>
Fall 2019	<i>02-601: Programming for Scientists</i> <i>02-602: Professional Issues in Computational Biology (with D. Brasier)</i> <i>02-680: Essential Mathematics and Statistics for Scientists (with S. Kim)</i> <i>02-500/02-700: Undergrad/MS Research in Computational Biology</i>
Summer 2019	<i>02-000: Pre-College Program in Computational Biology (with J. Kangas)</i> <i>03-601: Computational Biology Internship</i>
Spring 2019	<i>02-251: Great Ideas in Computational Biology (with C. Kingsford)</i> <i>02-604: Fundamentals of Bioinformatics</i> <i>02-500/02-700: Undergrad/MS Research in Computational Biology</i>
Fall 2018	<i>02-601: Programming for Scientists</i> <i>02-602: Professional Issues in Computational Biology (with S. Wong)</i> <i>02-500/02-700: Undergrad/MS Research in Computational Biology</i>
Summer 2018	<i>03-601: Computational Biology Internship</i>
Spring 2018	<i>02-201: Programming for Scientists</i> <i>02-602: Professional Issues in Computational Biology (with S. Wong)</i> <i>02-604: Fundamentals of Bioinformatics</i> <i>02-500/02-700: Undergrad/MS Research in Computational Biology</i>
Fall 2017	<i>02-601: Programming for Scientists</i> <i>02-602: Professional Issues in Computational Biology (with S. Wong)</i>

02-500/02-700: *Undergrad/MS Research in Computational Biology*

Summer 2017 03-601: *Computational Biology Internship*

Spring 2017 02-201: *Programming for Scientists*
02-602: *Professional Issues in Comp. Bio. (with S. Subramanian)*
02-604: *Fundamentals of Bioinformatics*
02-500/02-700: *Undergrad/MS Research in Computational Biology*

Fall 2016 02-201: *Programming for Scientists*
02-601: *Programming for Scientists*
02-602: *Professional Issues in Comp. Bio. (with S. Subramanian)*
02-500/02-700: *Undergrad/MS Research in Computational Biology*

Spring 2016 02-201: *Programming for Scientists*
02-602: *Professional Issues in Comp. Bio. (with S. Subramanian)*
02-604: *Fundamentals of Bioinformatics*
02-500/02-700: *Undergrad/MS Research in Computational Biology*

Fall 2015 02-601: *Programming for Scientists*
02-602: *Professional Issues in Comp. Bio. (with S. Subramanian)*
02-500/02-700: *Undergrad/MS Research in Computational Biology*

NUI Galway – Guest Instructor

Fall 2021 Foundations of Genomics Data Science

Fall 2020 Foundations of Genomics Data Science

University of California San Diego – Instructor

Winter 2014 “GULP” Program for Math Undergrads: *Gödel, Escher, Bach*

Winter 2013 MATH 3C: *Precalculus*
“GULP” Program for Math Undergrads: *Learning Bioinformatics*

University of California San Diego – Teaching Assistant

Winter 2014	CSE 181: <i>Molecular Sequence Analysis</i>
Fall 2012	MATH 10A: <i>Calculus I</i>
Spring 2010	MATH 10C: <i>Calculus III</i>
Winter 2010	MATH 20B: <i>Calculus II for Scientists & Engineers</i>
Fall 2009	MATH 20B: <i>Calculus II for Scientists & Engineers</i>

TEACHING (ONLINE)

Executive Education

2023- Great Ideas in Computational Biology

- Course homepage: https://exec.cs.cmu.edu/custom/computational_biology

Independent Online Education

2023- *Programming for Lovers*

- Course homepage: <https://programmingforlovers.com>

2021- *Biological Modeling*

- Course homepage: <http://biologicalmodeling.org>

Coursera

2016- *Bioinformatics Capstone: Big Data in Biology*

Co-instructor (with Pavel Pevzner)

2016- *Biology Meets Programming: Bioinformatics for Beginners*

Co-instructor (with Pavel Pevzner)

2015- *Genomic Data Science and Clustering*

Co-instructor (with Pavel Pevzner)

2015- *Molecular Evolution*

Co-instructor (with Pavel Pevzner)

2015- *Finding Mutations in DNA and Proteins*

Co-instructor (with Pavel Pevzner)

2013- *Finding Hidden Messages in DNA*

- Co-instructor (with Pavel Pevzner)
- 2013- *Genome Sequencing*
Co-instructor (with Pavel Pevzner)
- 2013- *Comparing Genes, Proteins, and Genomes*
Co-instructor (with Pavel Pevzner and Nikolay Vyahhi)

EdX

- 2018- *Graph Algorithms in Genome Sequencing*
Co-instructor (with Pavel Pevzner)
- 2018- *Dynamic Programming: Applications in Machine Learning and Genomics*
Co-instructor (with Pavel Pevzner)
- 2018 *Analyze Your Genome*
Co-instructor (with Pavel Pevzner and Niema Moshiri)
- 2017 *Introduction to Genomic Data Science*
Co-instructor (with Pavel Pevzner)

YouTube

- 2024 *Programming for Lovers Chapter 3 Go Code-Alongs*
- Working with Multidimensional Arrays
 - Implementing the Game of Life
 - Animating the Game of Life
 - Building a General Cellular Automaton, and Langton Loops
- 2023 *Programming for Lovers Chapter 2 Go Code-Alongs* (<https://tinyurl.com/effkerku>)
- Rolling Dice
 - Simulating Craps with a Monte Carlo Algorithm
 - Parsing in Data from File
 - Simulating a US Presidential Election
- 2023 *Programming for Lovers Chapter 1 Go Code-Alongs* (<https://tinyurl.com/effkerku>)
- An Introduction to Strings
 - Substrings (and Subslices)
 - An Introduction to Maps
 - Finding Frequent Words in Strings
 - Finding Clumps in Strings
 - Building a Genome Skew Array

- 2023 *Programming for Lovers Chapter 0 Go Code-Alongs* (<https://tinyurl.com/mvbz3t4b>)
- Installing Go and writing a “Hello world!” program
 - Types and Numeric Variables
 - Functions
 - Conditionals
 - While Loops
 - For Loops
 - Two GCD Algorithms
 - Arrays and Slices
 - Prime Finding Algorithms
- 2020 *What is Computational Biology? The Computational Biology Major at Carnegie Mellon University* (URL: <https://www.youtube.com/watch?v=HWVzqFaGjmU>)
- 2019 *Programming for Lovers Alpha Release* (Playlist URL: <https://bit.ly/367I915>)
- Prologue: Ancient Greek Mathematics and the Origins of Computational Thinking
 - Basics of Go Syntax, and Timing Two Functions for GCD and Prime Finding
 - Finding Replication Origins in Bacterial Genomes
 - Arrays, Strings, and Maps in Go
 - Predicting a US Presidential Election with Monte Carlo Simulation
 - Monte Carlo Simulation and Implementing an Election Simulator in Go
 - Building a Gravity Simulator with Object-Oriented Programming
 - Object-Oriented Programming and Jupiter Moons in Go
 - Evolutionary Trees and More Object-Oriented Programming
 - Implementing an Evolutionary Tree Algorithm in Go
 - An Overview of Parallel and Concurrent Programming
 - How Go Implements Parallel and Concurrent Programming
- 2019 *Computational Biology M.S. Program Information Session* (with J. Kangas; URL: <https://bit.ly/37mx8cv>)
- 2017 *A Short Introduction to Programming in Go* (Playlist URL: <https://bit.ly/2HcjKgS>)
- Getting Started in Go (Mac OS X)
 - Getting Started in Go (Windows)
 - Basics of Variables in Go
 - Functions and Conditionals in Go
 - A Lesson on Debugging in Go
 - Loops in Go
 - Nested Loops in Go

- Timing Functions in Go
- Arrays in Go
- Multidimensional Arrays in Go

2017 *Genome Reconstruction: A Puzzle with a Billion Pieces* (Playlist URL: <https://bit.ly/2E23OvE>)

- Introduction to Genome Sequencing
- What is Genome Sequencing?
- The Newspaper Problem and Genome Sequencing
- Walking with Mathematicians
- Euler's Theorem
- Difficult Computational Problems

2017 *CBD Office Visits Series: Phillip Compeau* (URL: <https://bit.ly/2HaVCes>)

2015 *Which Animal Gave Us SARS?* (Playlist URL: <https://bit.ly/2Q4ecYF>)

- The Fastest Outbreak
- Transforming Distance Matrices into Evolutionary Trees
- Toward an Algorithm for Distance-Based Phylogeny Construction
- Additive Phylogeny
- Using Least-Squares to Construct Distance-Based Phylogenies
- Ultrametric Trees
- The Neighbor-Joining Algorithm
- Character-Based Tree Reconstruction
- The Small Parsimony Problem
- The Large Parsimony Problem
- Evolutionary Tree Reconstruction in the Modern Era

2015 *How Do We Locate Disease-Causing Mutations?* (with Son Pham; playlist URL: <https://bit.ly/2DZVYm9>)

- Why Do We Map Reads?
- Using the Trie
- From a Trie to a Suffix Tree
- String Compression and the Burrows-Wheeler Transform
- Inverting Burrows-Wheeler
- Using Burrows-Wheeler for Pattern Matching
- Finding the Matched Patterns
- Setting up Checkpoints
- Inexact Pattern Matching
- Further Applications of Read Mapping

2014 *How Do We Sequence Antibiotics?* (Playlist URL: <https://bit.ly/2H82kR8>)

- The Discovery of Antibiotics
- How Do Bacteria Make Antibiotics?
- Sequencing Antibiotics by Shattering them into Pieces
- A Brute Force Algorithm for Cyclopeptide Sequencing
- Cyclopeptide Sequencing with Branch and Bound
- Adapting Sequencing for Spectra with Errors
- From 20 to More than 100 Amino Acids
- The Spectral Convolution Saves the Day
- The Truth about Spectra

SERVICE AND OUTREACH

Service to Profession

- 2018-2021 Computational Biology Careers Website (<http://careers.cbd.cmu.edu>) co-founder (with S. Mudrinich).
- 2013- Coursera Bioinformatics Specialization co-instructor. Free materials provided at <http://bioinformaticsalgorithms.org>.
- 2012- Rosalind web platform (<http://rosalind.info>) co-founder and chief editor.

University/Departmental/Program Committees and Service

- 2024- SCS Honors Thesis Award Committee
- 2023- SCS Council
- 2023- Mark Stehlik Teaching Fellowship Committee
- 2022 Computational Biology Department Faculty Search Committee
- 2021 CPCB Hackathon Judge
- 2021 CS Pathways Search Committee
- 2021 SCS First-Year Undergraduate Experience Subcommittee
- 2020 Computational Biology New Educational Initiatives Committee
- 2020- Eberly Center Liaison for Coronavirus Academic Preparedness
- 2020-2021 SCS Coronavirus Teaching Continuity Task Force
- 2020 SCS Undergraduate Honors Thesis Subcommittee (Chair)
- 2020- CMU Health Professions Program Advisory Board
- 2020- Comp. Bio. Teaching Track Faculty Search Committee (Chair)
- 2020 SCS Associate Dean Appointments Committee
- 2019 Carnegie Mellon PreCollege Diversity Committee

2017-2021	SCS Student Teaching Award Committee
2016-	Computational Biology Curriculum Committee (Chair)
2016-	School of Computer Science Undergraduate Review Committee
2016-	School of Computer Science Dean's List Committee
2016-	Elizabeth W. Jones Award Evaluating Committee
2015-	MS Computational Biology Steering Committee
2015-	SCS Teaching Faculty Journal Club
2015-	Biology Teaching Faculty Journal Club
2015-2016	Meeting of the Minds, Sigma Xi Poster Judge

Internal Presentations and Panels

2024	"It Happens Here". April Yield Talk for SCS Admitted Students
2023	Computational Biology Information Session for Prospective Students
2023	SCS Panel on Teaching in Academia & Teaching Job Market
2020-	Pre-College Director Panel for Prospective Students
2020-2022	Summer Faculty Book Club for Incoming Undergraduates (<i>Biological Modeling and Bioinformatics Algorithms</i>)
2020	"It Happens Here!" CMU Faculty Interview for Incoming Undergraduates
2020	SCS Undergraduate Senior Salute (Virtual Commencement) Speaker
2019	SCS Celebration of Education Day Speaker
2019	SCS "Ask Me Anything" Advisor Panel
2018-	Computational biology information session for non-SCS students
2018-	April Admitted Student Days Speaker (ten times in April)
2018-	SCS Town Hall for Juniors and Seniors
2016-	SCS First-year Immigration Course (FIC) Guest Speaker
2016-	Celebration of Diversity attendee (three times annually)
2015-	Turn Tartan Overnight speaker (five times annually)
2017	SCS information talk at Turn Tartan Overnight (with Guy Blelloch)
2016	LEAP@CMU Guest Speaker
2016	Facebook Live event for Creation of Undergrad CB Program
2015	Computational biology information session for CS majors

Faculty Mentorship

2022-	Joshua Kangas
2023-	Dan Deblasio

Student Advising

2019- Advisor, Concentration in Computational Biology
 2016- Advisor, Undergraduate Program in Computational Biology
 2015- Professional Advisor, MS in Computational Biology
 2015- Advisor, Minor in Computational Biology
 2015-2016 CPCB Student Advising Committee
 2015 CPCB student fellowship advising

Industry Science Events Organized

2024 Let's Talk Comp Bio (virtual fair, 20 companies)
 St Jude Children's Research Hospital
 GRAIL
 New York Structural Biology Center
 Insitro
 DNAnexus
 Undaunted Bio
 Omega Therapeutics
 Novasenta
 Broad Institute

2022 CMU Inaugural Biotech Industry Fair (24 companies attended)

2021 Lurie Children's Hospital of Chicago
 Freenome
 Bigelow Laboratory for Ocean Sciences
 BlueSphereBio
 Cerevance
 DNANexus
 Roche Sequencing
 Tempus

2020 Helomics
 Foundation Medicine
 Flatiron Health
 Verily
 Emerald Cloud Lab
 10X Genomics
 Pairwise

2019 Computational Biology Dept 10th Anniversary Alumni Science Talks
 (Pairwise, Ocean Genomics, Eli Lilly, UPMC Enterprise)
 Regeneron
 DE Shaw Research
 Helomics

	Lifeware Labs
2018	Computational Biology Department Virtual Job Fair (various orgs.) Computational Biology Hackathon (sponsored by Helomics) Regeneron Computational Biology Department Virtual Job Fair (various orgs.) Ancestry
2017	DNANexus DE Shaw Research

Student Events Organized

2019-2022	CBD End of Year Student Celebration
2019-2022	Undergrad/MS Student Snow Tubing in Boyce Park
2018-2022	MS Computational Biology Open House
2018-2022	CBD Undergraduate Kennywood Fright Night
2017-2022	Computational Biology Ice Cream Social
2017-2022	MS Computational Biology Thanksgiving
2016-2020	MS Computational Biology Orientation

Additional Departmental Service

2018	CMU Department Heads' Committee meeting as proxy
2017	Met with Xi'an Jiaotong representatives regarding transfer program
2017-	Contact all admitted computational biology undergraduates
2018-2019	Oversaw construction/maintenance of CBD Personnel Directory
2016-2019	Oversaw CBD social media efforts
2016	Designed fliers for undergraduate computational biology program
2016	Organized redesign of CBD logo
2016	Aided in redesign of CBD website and wrote several new pages of content
2016	Consulted on search engine optimization (SEO) of CBD website

Other Administrative Duties

2019-2021	Supervisor to Samantha Mudrinich (academic coordinator in CBD)
2019	Completed NAPP process for CMU approval of CB precollege program
2018-	Perform targeted ETS marketing campaigns for MS Comp. Bio.
2018-	Attend biweekly SCS advisor meetings
2018	Completed NAPP process for approval of additional major in comp. bio.
2017-	Meet with prospective undergraduates (75 in 2017, 45 in 2018, 18 in 2019)
2017-	Manage Google Ads marketing campaign for MS Comp. Bio.

2017- Maintain CB Major/Minor/Concentration in Undergraduate Catalog
 2017- Review potential transfer students from UCAS (Chinese Acad. Sci.)
 2016- Meet annually with CMU-Qatar CB Program Advisor(s)
 2016- Meet annually with CMU admissions regarding undergraduate program
 2016- Build and maintain contact list of over 500 industry professionals
 2016- Compile and send resume book of first-year MS Comp. Bio. students
 2016-2018 Completed targeted mailings for CB major via Collegeboard
 2016 Compiled list of over 200 high school teacher contacts for marketing
 2017 Consulted with AI/HCI representatives on creation of new majors
 2016 Completed NAPP process for CMU approval of CB undergrad program

Community Outreach Activities

2023 "All of biology is computational biology." Greene County gifted students visit day. Carnegie Mellon University.
 2022 "Computational biology and Metagenomics." High School Day. Carnegie Mellon Society of Women Engineers.
 2021 Student poster session judge. Omics Research Symposium, hosted by Pine Biotech.
 2021 "What do professors do?" Guest speaker at Central Wilkes Middle School. Moravian Falls, NC.
 2021 "What is computational biology?" Take Our Children to Work Day (Carnegie Mellon event). Guest Speaker.
 2021 "The Pre-College Program in Computational Biology". Delivered with Josh Kangas to Pittsburgh-area minority students in Ruth's Way.
 2020 STEM Junction Symposium. Keynote Speaker. "Why Do Zebras Have Stripes? Turing patterns and Monte Carlo simulation."
 2018 CMU Bioinformatics Visit Day co-organizer (with Josh Kangas); presented to 25 students from Upper St. Clair HS and North Allegheny HS
 2018 "How finding the best tourist route helps us find similarities in DNA". St. Clair High School (St. Clair, PA)
 2018 STEM Junction Symposium. Faculty Sponsor and Invited Speaker. "Evolutionary games".
 2017 STEM Junction Symposium. Faculty Sponsor and Invited Speaker. "Genome assembly".
 2016-2018 "Genome Reconstruction: A Puzzle with a Billion Pieces." Presented at:

- (2018) CS1 Day (Pittsburgh-Area CS Curriculum for 200 Students)
- (2017) Dougherty Valley High School (San Ramon, CA)
- (2017) Walnut Hills High School (Cincinnati, OH)

- (2017) Urban Assembly Gateway School for Technology (New York, NY)
 - (2017) Stuyvesant High School (New York, NY)
 - (2017) Xavier College Prep High School (Phoenix, AZ)
 - (2017) Stuyvesant High School (New York, NY)
 - (2016) Cupertino High School (San Jose, CA)
 - (2016) PA Cyber (Pennsylvania Online High School)
 - (2016) Winchester Thurston Upper School (Pittsburgh, PA)
 - (2016) IVY+ Program (Louisville, KY)
 - (2016) Monta Vista High School (Cupertino, CA)
- 2015 Information session on MS Comp. Bio. at University of Pittsburgh

MEDIA COVERAGE

- 2024 “If you use AI to teach you how to code, remember you still need to think for yourself”. Katyanna Quach. *The Register*. January 27, 2024. https://www.theregister.com/2024/01/27/ai_coding_automatic/.
- 2022 “Phillip Compeau, Author of *Biological Modeling*”. Leanpub Frontmatter Podcast with Len Epp. June 7, 2022. <https://leanpub.com/podcasts/frontmatter>.
- 2020 “Transformative Research Experiences in the Pre-College Program in Computational Biology”. Tartan Dataspace (CMU Libraries blog). August 21, 2020. <https://bit.ly/3gf1BgB>.
- 2019 “Local professor brings CMU sensibilities to the masses”. WESA interview on The Confluence. October 3, 2018. <https://bit.ly/34YK4Uv>
- 2019 “Computational Biology Hosts Its First Precollege Program”. Byron Spice. Carnegie Mellon School of Computer Science website. July 30, 2019. <https://bit.ly/358M2kW>.
- 2018 “Faculty Profile: Comp Bio’s Compeau Rethinks Traditional Teaching”. Susie Cribbs. *The Link* and Carnegie Mellon School of Computer Science website. October 5, 2018. <https://bit.ly/2SBmhHw>.
- 2016 “School of Computer Science to Offer Computational Biology Major.” Carnegie Mellon School of Computer Science website. October 4, 2016. <https://bit.ly/2MDCdVG>.
- 2015 “Life after MOOCs.” Byron Spice. Carnegie Mellon School of Computer Science website. October 2, 2015. <https://bit.ly/2F2uUTy>.
- 2015 “Bioinformatics pioneers launch first online bioinformatics specialization on Coursera.” Doug Ramsey. UC San Diego News Center. August 17, 2015. <https://bit.ly/2Q5bX8L>.
- 2014 The Kinsee Report. San Diego City Beat. Feb. 26, 2014.

- 2014 "Online course developed in computer science and engineering ranks no. 1." Doug Ramsey. UC San Diego Jacobs School of Engineering website.
- 2013 KBPS Evening Edition. Education Desk. October 30, 2013.
<https://to.pbs.org/2SzmbA7>.
- 2013 "Is massive open online research the next frontier for education?" Doug Ramsey. UC San Diego News Center. <https://bit.ly/2tanaw0>.
- 2012 "Q&A: UCSD's Philip [sic] Compeau Discusses Rosalind, a Problem-Oriented Bioinformatics Education Platform." Genomeweb. October 5, 2012.
<https://bit.ly/3576qTz>.

PROFESSIONAL ORGANIZATIONS/SKILLS

Professional Organizations

- 2023- Association for Computing Machinery's Special Interest Group on Computer Science Education (SIGCSE)
- 2023- Life Science Trainers
- 2022- National Partnership for Educational Access
- 2020- Global Organisation for Bioinformatics Learning, Education & Training
- 2020- Society for the Advancement of Biology Education Research
- 2019- Association for Computing Machinery
- 2019- Society for Advancement of Chicanos/Hispanics and Native Americans in Science
- 2016- International Society for Computational Biology

Professional Trainings

- 2021 Mental Health First Aid Recertification (National Council for Behavioral Health)
Carnegie Mellon Sexual Assault Prevention
Carnegie Mellon Diversity, Equity, and Inclusion Training
- 2019 Affirmative Action Seminar for MS Application Review
- 2018 Bias Busters Training
Advisor Development Training (College Stressors and Academic Advising)
Advisor Development Training (Title IX)
Mental Health First Aid Certification (National Council for Behavioral Health)
ETS Training Seminar

Training for Stellar academic audit software
OIE Session on interviewing international applicants

- 2017 Early Faculty Development seminar (Managing yourself and others)
Training Seminar for Undergraduate Catalog Management
FERPA Education Session for Administrators
Early Faculty Development seminar (Negotiation)
- 2015 Sexual harassment training
New CMU Faculty Teaching Orientation (organized by Eberly Center)
New SCS Faculty Orientation

Related Professional Skills

LaTeX
Wordpress/HTML/CSS
Google Ads
Search Engine Optimization and Google Analytics
Programming

Languages

English Native
French Can read with dictionary
Spanish Beginner

PERSONAL

Organizations/Causes

2019 Andrew Carnegie Society (for donation of \$2,500+ to CMU)

Tennis

2008-2009 Member of Cambridge University Men's Lawn Tennis Team
2008 ATP world men's professional doubles ranking of 1,393
2008 CoSIDA Academic All-District Student Athlete
2007-2008 Captain of Davidson College Men's Tennis Team
2004-2008 Member of Davidson College Men's Tennis Team

Golf

- 2022 3rd Place Finish in West Pennsylvania Golf Association Fred Brand foursomes tournament (with T. Derdenger)
- 2019-2019 *Golf Digest 100 Greatest Courses* world panelist (volunteer position)
4th Place Finish in West Pennsylvania Golf Association Fred Brand foursomes tournament (with T. Derdenger)
- 2008-2009 Member of Cambridge University "Stymies" Golf Team