

Bioinformatician

Education**PhD in Quantitative and Systems Biology**

Aug 2021

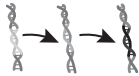
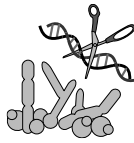
UC MERCED

BS in Genetics

Jun 2010

Minor in Quantitative Biology and Bioinformatics

UC DAVIS

Publications**Thaddeus D. Seher.** [A computational approach for microbial genome editing.](#) eScholarship: *UC Merced Electronic Theses and Dissertations* (2021).**Thaddeus D. Seher,** Namkha Nguyen, Diana Ramos, Priyanka Bapat, Clarissa J. Nobile, Suzanne S. Sindi, Aaron D. Hernday. [AddTag, a two-step approach with supporting software package that facilitates CRISPR/Cas-mediated precision genome editing.](#) *G3 Genes | Genomes | Genetics* (June 2021). doi: [10.1093/g3journal/jkab216](https://doi.org/10.1093/g3journal/jkab216), available from: <https://github.com/tdseher/addtag-project>.William Ludington, **Thaddeus D. Seher,** Olin Applegate, Xunde Li, Joseph Kliegman, Charles Langelier, Edward Atwill, Thomas Harter, Joseph DeRisi. [Assessing biosynthetic potential of agricultural groundwater through metagenomic sequencing: A diverse anammox community dominates nitrate-rich groundwater.](#) *PLoS ONE*: 12(4), e0174930 (December 2016), doi: [10.1371/journal.pone.0174930](https://doi.org/10.1371/journal.pone.0174930), PMID: [28384184](https://pubmed.ncbi.nlm.nih.gov/28384184/).Amir Yassin, Emily Delaney, Adam Reddiex, **Thaddeus D. Seher,** Héloïse Bastide, Nicholas Appleton, Justin Lack, Jean David, Stephen Chenoweth, John Pool, Artyom Kopp. [The pdm3 locus is a hotspot for recurrent evolution of female-limited color dimorphism in Drosophila.](#) *Current Biology*: pii S0960-9822(16)30767-9 (August 2016), doi: [10.1016/j.cub.2016.07.016](https://doi.org/10.1016/j.cub.2016.07.016), PMID: [27546577](https://pubmed.ncbi.nlm.nih.gov/27546577/).Meghan Koch, Gabrielle Reiner, Kyler Lugo, Lieselotte Kreuk, Alison Stanbery, Eduard Ansaldo, **Thaddeus D. Seher,** William Ludington, Gregory Barton. [Maternal IgG and IgA antibodies dampen mucosal T helper cell responses in early life.](#) *Cell*: 165(4), 827-841 (May 2016), doi: [10.1016/j.cell.2016.04.055](https://doi.org/10.1016/j.cell.2016.04.055), PMID: [27153495](https://pubmed.ncbi.nlm.nih.gov/27153495/).Sarah Signor, **Thaddeus D. Seher,** Artyom Kopp. [Genomic resources for multiple species in the Drosophila ananassae species group.](#) *Fly*: 7(1), 47-56 (January 2013), doi: [10.4161/fly.22353](https://doi.org/10.4161/fly.22353), PMID: [23639891](https://pubmed.ncbi.nlm.nih.gov/23639891/).**Thaddeus D. Seher,** Chen Siang Ng, Sarah Signor, Ondrej Podlaha, Olga Barmina, Artyom Kopp. [Genetic basis of a violation of Dollo's law: re-evolution of rotating sex combs in Drosophila bipectinata.](#) **Front cover** *Genetics*: 192(4), 1465-1475 (December 2012), doi: [10.1534/genetics.112.145524](https://doi.org/10.1534/genetics.112.145524), PMID: [23086218](https://pubmed.ncbi.nlm.nih.gov/23086218/).tdseher@biothought.org[@tdseher](https://twitter.com/tdseher)github.com/tdsehertdseher.com

Bioinformatician

Abstracts and posters

Thaddeus D. Seher, Namkha Nguyen, Diana Ramos, Priyanka Bapat, Clarissa Nobile, Suzanne Sindi, Aaron Hernday. [A computational approach for genome editing using CRISPR/Cas](#). Society for Mathematical Biology: Abstract + Poster (June 2021).

Meghan Koch, Gabrielle Reiner, Kyler Lugo, **Thaddeus D. Seher**, William Ludington, Gregory Barton. [Anti-commensal IgG3 antibodies reinforce intestinal immune homeostasis. Inflammatory Bowel Diseases—Mucosal Inflammation Program](#): Abstract + Poster (December 2014), doi: [10.1097/O1.MIB.0000456934.57591.13](https://doi.org/10.1097/O1.MIB.0000456934.57591.13).

Meghan Koch, Gabrielle Reiner, Kyler Lugo, **Thaddeus D. Seher**, William Ludington, Gregory Barton. [TLR-induced anti-commensal antibodies regulate intestinal homeostasis](#). Kenneth Rainin Foundation's 2014 Innovations Symposium—Taming the Microbiome: Abstract + Poster (July 2014).

Thaddeus D. Seher, Ted Kim, Carolyn Elya, Javier Navarro, Eoin Brodie, Michael Eisen, William Ludington. [Ecological epistasis in the fly gut on spatial, temporal, and evolutionary dimensions](#). 2013 U.C. San Francisco/U.C. Berkeley Immunology Retreat: Poster (September 2013).

Thaddeus D. Seher, Ondrej Podlaha, Artyom Kopp. [Evolution of abdominal pigmentation in the montium subgroup of *Drosophila*](#). 2011 Genetics Society of America *Drosophila* Research Conference: Abstract + Poster (March 2011).

Research positions

Bioinformatics Scientist SEROTINY, INC	Nov 2021 – Apr 2022
Graduate Student <u>Nobile Laboratory</u> (QSB), UC MERCED	Jan 2016 – Aug 2021
Graduate Student <u>Sindi Laboratory</u> (Applied Math), UC MERCED	Jan 2016 – Aug 2021
Computer Resource Specialist <u>Ludington Laboratory</u> (MCB), UC BERKELEY	May 2013 – Jul 2015
Computer Resource specialist <u>Barton Laboratory</u> (MCB), UC BERKELEY	May 2013 – Jul 2015
Junior Specialist <u>Kopp Laboratory</u> (Evolution), UC DAVIS	Oct 2010 – Oct 2012
Animal Technician & Pipeline Engineer Langley Laboratory (Evolution), UC DAVIS	Dec 2008 – Oct 2010



tdseher@biothought.org



@tdseher



github.com/tdseher



tdseher.com

Teaching positions

Teaching Assistant BIO-180: Mathematical Modeling for Biology, UC MERCED	Spring 2021
Teaching Assistant MATH-012: Calculus II, UC MERCED	Fall 2020
Teaching Assistant MATH-012: Calculus II, UC MERCED	Summer 2020
Teaching Assistant MATH-011: Calculus I, UC MERCED	Spring 2020
Teaching Assistant MATH-011: Calculus I, UC MERCED	Fall 2019
Teaching Assistant MATH-011: Calculus I, UC MERCED	Summer 2019
Statistics Tutor for Graduate Students and Postdocs Graduate Division, UC MERCED	Spring 2019
Teaching Assistant BIO-018: Statistics for Scientific Data Analysis, UC MERCED	Fall 2018
Statistics Tutor for Graduate Students and Postdocs Graduate Division, UC MERCED	Fall 2017
Teaching Assistant MATH-015: Introduction to Scientific Data Analysis, UC MERCED	Fall 2017
Teaching Assistant BIO-184: Object Oriented Programming for Biologists, UC MERCED	Spring 2017
Teaching Assistant MATH-015: Introduction to Scientific Data Analysis, UC MERCED	Fall 2016
STEM Instructor Summer workshop for pre-K to 5th grade, HARVEST PARK EDUCATION CENTER	Summer 2016
Teaching Assistant BIO-175: Biostatistics, UC MERCED	Spring 2016
Teaching Assistant BIO-001: Contemporary Biology, UC MERCED	Fall 2015
Mentor <u>Undergraduate Research Apprentices Program (L&S), UC BERKELEY</u>	Spring 2014



Invited lectures

Thaddeus Seher. Making hard genome editing easy with CRISPR/Cas-induced homology-directed repair. Quantitative and Systems Biology seminar series, UC MERCED (March 2021).

Thaddeus Seher. Subtleties of BLAST parameters. BIO-184: Object Oriented Programming for Biologists, UC MERCED (April 2017).

Thaddeus Seher. NumPy data structures and Matplotlib recipes. BIO-184: Object Oriented Programming for Biologists, UC MERCED (April 2017).

Thaddeus Seher. Practical steps to forge a career in science (for undergraduates). Society for Advancement of Chicanos/Hispanics and Native Americans in Science, UC MERCED (April 2016).

Thaddeus Seher. χ^2 tests: contingency tables, directionality, & estimators. BIO-175: Biostatistics, UC MERCED (April 2016).

Thaddeus Seher. t-tests: α , confidence intervals, & hypothesis directionality. BIO-175: Biostatistics, UC MERCED (March 2016).

Honors and awards

Remote Teaching and Research Fellowship Quantitative and Systems Biology, UC MERCED	April 2021
Dissertation Incentive Award School of Natural Sciences, UC MERCED	April 2020
Summer Teaching Assistant Top-off Award School of Natural Sciences, UC MERCED	March 2020
Qualifying Exam Award Quantitative and Systems Biology, UC MERCED	April 2019
Honorable Mention, Graduate Research Fellowship Program NATIONAL SCIENCE FOUNDATION	March 2017
Summer Research Fellowship Quantitative and Systems Biology, UC MERCED	March 2017
Program for Excellence in Science 3-year Sponsorship AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE	August 2016
Honorable Mention, Graduate Research Fellowship Program NATIONAL SCIENCE FOUNDATION	March 2016
Graduate Award UC MERCED	April 2016
Summer Fellowship Quantitative and Systems Biology, UC MERCED	March 2016
Graduate Fellowship Incentive Program Award UC MERCED	Jan 2016
Honors Student Davis Honors Challenge, UC DAVIS	Fall 2006 – Spring 2009



Bioinformatician

Professional enterprises

President Graduate Student Association, UC MERCED	2018 – 2019
Founder & Chief Technology Officer RadioBio Podcast, UC MERCED	2016 – 2018
Vice President Quantitative Project, UC MERCED	2015 – 2017
Founder & Committee Member BAFC Scholars College Endowment Fund	2012 – 2018

Hobbies

-  Home brewer
-  Procedurally-generated artist
-  Creative writer
-  Novice synth, mandolin, and guitar player
-  Arduino inventor
-  Occasional Ultimate Frisbee player
-  Disc golfer
-  Digital game designer
-  Tabletop game aficionado
-  Daily cyclist

tdseher@biothought.org[@tdseher](https://twitter.com/@tdseher)github.com/tdsehertdseher.com