

BRIAN L. ELLIS

Assistant Professor of Biology at Lipscomb University
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Personal Place of Birth: Albuquerque, New Mexico

Education

2010 - 2012 – Postdoctoral research at the University of California, San Diego (UCSD), La Jolla, California.

2010 Ph. D. – Biochemistry from the University of Texas Southwestern Medical Center at Dallas (UTSW), Dallas, Texas.

2004 B.S. – Double Major in Molecular Biology and Biochemistry, Minor in Medical Physics from the University of Denver (DU), Denver, Colorado. GPA of 3.74

Courses Taught and Teaching Experience

Clinical Research (Lipscomb University): Spring, 2021

- Guided and instructed presentations and papers and proposed clinical trials (~4 hrs/week) comprised of master's students (BMS5463).

Applied Research (Lipscomb University): Spring, 2021

- Guided, instructed, reviewed master's students capstone research and presentations (~3 hrs/week) comprised of master's students (BMS5143).

Research Capstone (Lipscomb University): Spring, 2021

- Guided, instructed, reviewed master's students capstone research, papers, and presentations (~3 hrs/week) comprised of master's students (BMS5503).

Biomolecular Lab II (Lipscomb University): Spring, 2021

- Guided, instructed, reviewed master's students work with transfection (~2 hrs/week for two weeks) comprised of master's students (BMS5123).

Biomolecular Research Methods (Lipscomb University): Spring, 2020

- Taught and administered lecture/lab (~2 hrs/week) comprised of major students (BY3101).

Microbiology (Lipscomb University): Fall, 2020

- Taught and administered lecture (~3 hrs/week) and lab (~6 hrs/week) comprised of major students (BY3214).

Scientific Communication (Lipscomb University): Fall, 2020

- Guided and instructed presentations, papers, and posters (~4 hrs/week) comprised of master's students (BMS5133).

Human Disease Capstone (Lipscomb University): Fall, 2020

- Guided, instructed, reviewed master's students capstone papers and presentations (~3 hrs/week) comprised of master's students (BMS5503).

Clinical Research (Lipscomb University): Spring, 2020

- Guided and instructed presentations and papers and proposed clinical trials (~4 hrs/week) comprised of master's students (BMS5463).

Applied Research (Lipscomb University): Spring, 2020

- Guided, instructed, reviewed master's students capstone research and presentations (~3 hrs/week) comprised of master's students (BMS5143).

Research Capstone (Lipscomb University): Spring, 2020

- Guided, instructed, reviewed master's students capstone research, papers, and presentations (~3 hrs/week) comprised of master's students (BMS5503).

Biomolecular Lab II (Lipscomb University): Spring, 2020

- Guided, instructed, reviewed master's students online work with molecular cloning (~2 hrs/week for two weeks) comprised of master's students (BMS5123).

Biomolecular Research Methods (Lipscomb University): Spring, 2020

- Taught and administered lecture/lab (~2 hrs/week) comprised of major students (BY3101).

Microbiology (Lipscomb University): Fall, 2019

- Taught and administered lecture (~3 hrs/week) and lab (~6 hrs/week) comprised of major students (BY3214).

Scientific Communication (Lipscomb University): Fall, 2019

- Guided and instructed presentations, papers, and posters (~4 hrs/week) comprised of master's students (BMS5133).

Human Disease Capstone (Lipscomb University): Fall, 2019

- Guided, instructed, reviewed master's students capstone papers and presentations (~3 hrs/week) comprised of master's students (BMS5503).

General Biology (Bethel College): Spring, 2019

- Taught and administered lecture (~3 hrs/week), (taught three 1 hr lectures) comprised of major students (BIOL125).

Biochemistry (Bethel College): Spring, 2019

- Taught and administered lecture (~3 hrs/week) (taught three 1 hr lectures) and labs (~9 hrs/week, three 3 hour labs) comprised of major students (biology and chemistry: CHEM460).

Clinical Microbiology (Bethel College): Fall, 2018

- Taught and administered lecture (~3 hrs/week) and labs (~6 hrs/week) (taught two 1 1/2 hr lectures, two 3 hr labs) comprised of nursing students (BIOL220/L). Note: Clinical Microbiology BIOL220 is specifically for nursing majors and international health majors. Biology majors will continue to take BIOL312.

Molecular Cell Biology (Bethel College): Fall, 2018

- Taught and administered lecture (~3 hrs/week) (taught three 1 hr lectures) comprised of major students (BIOL308).

Environmental Science Lab (Bethel College): Fall, 2018

- Taught and administered lab (~3 hrs/week) (taught 1 lab comprised of nonmajor students for 3 hours) (NS110L).

General Biology (Bethel College): Spring, 2018

- Taught and administered lecture (~3 hrs/week) and labs (~3 hrs/week) (taught three 1 hr lectures, two 3 hr labs) comprised of major students (BIOL 125/L).

Scientific Research Methods (Bethel College): Spring, 2018

- A journal club based class. Facilitated discussion, evaluated comprehension (~2 hrs/week) (taught two 1 hr lectures) comprised of major students (NS333).

Chemistry Lab (Bethel College): Spring, 2018

- Taught and administered lab (~3 hrs/week) comprised of nursing students (CHEM150L).

Microbiology (Bethel College): Fall, 2017

- Taught and administered lecture (~3 hrs/week) and lab (~3 hrs/week) comprised of major students and international health majors (BIOL312).

Clinical Microbiology (Bethel College): Fall, 2017

- Taught and administered lecture (~3 hrs/week) and labs (~6 hrs/week) (taught two 1 1/2 hr lectures, two 3 hr labs) comprised of nursing students (BIOL220/L). Note: this class was previously listed as Microbiology BIOL312 but was changed to Clinical Microbiology BIOL220 specifically for nursing majors and international health majors. Biology majors will continue to take BIOL312.

General Biology (Bethel College): Spring, 2017

- Taught and administered lecture (~3 hrs/week) and labs (~3 hrs/week) (taught three 1 hr lectures, one 3 hr lab) comprised of major students (BIOL 125/L).

Biochemistry (Bethel College): Spring, 2017

- Taught and administered lecture (~3 hrs/week) (taught three 1 hr lectures) and labs (~6 hrs/week, two 3 hour labs) comprised of major students (biology and chemistry: BIOL460, CHEM460).

Clinical Microbiology (Bethel College): Fall, 2016

- Taught and administered lecture (~3 hrs/week) and labs (~6 hrs/week) (taught two 1 1/2 hr lectures, two 3 hr labs) comprised of one major student and nursing students (BIOL220/L). Note: this class was previously listed as Microbiology BIOL312 but was changed to Clinical Microbiology BIOL220 specifically for nursing majors and international health majors. Biology majors will continue to take BIOL312.

Molecular Cell Biology (Bethel College): Fall, 2016

- Taught and administered lecture (~3 hrs/week) (taught three 1 hr lectures) comprised of major students (BIOL308).

General Biology (Bethel College): Spring, 2016

- Taught and administered lecture (~3 hrs/week) and labs (~6 hrs/week) (taught three 1 hr lectures, two 3 hr labs) comprised of major students (BIOL 125/L).

Chemistry Lab (Bethel College): Spring, 2016

- Taught and administered lab (~3 hrs/week) comprised of nursing students (CHEM150L).

Scientific Research Methods (Bethel College): Spring, 2016

- A journal club based class. Facilitated discussion, evaluated comprehension (~3 hrs/week) (taught two 1 1/2 hr lectures) comprised of major students (NS333).

Molecular Lab Research (Bethel College): Fall, 2015

- Taught and administered lecture (~3 hrs/week) and labs (~6 hrs/week) (taught three 1 hr lectures, two 3 hr labs (same students in both labs)) comprised of upper level major students (BIOL480/L)

Microbiology (Bethel College): Fall, 2015

- Taught and administered lecture (~3 hrs/week) and labs (~9 hrs/week) (taught two 1 1/2 hr lectures, three 3 hr labs) comprised of major students and nursing students (BIOL312/L).

General Biology (Bethel College): Spring, 2015

- Taught and administered lecture (~3 hrs/week) and labs (~6 hrs/week) (taught three 1 hr lectures, two 3 hr labs) comprised of major students (BIOL 125/L).

Biochemistry (Bethel College): Spring, 2015

- Taught and administered lecture (~3 hrs/week) (taught three 1 hr lectures) comprised of major students (biology and chemistry: BIOL460, CHEM460). The lab was taught by the chemistry department.

Scientific Research Methods (Bethel College): Spring, 2015

- A journal club based class. Facilitated discussion, evaluated comprehension (~3 hrs/week) (taught two 1 1/2 hr lectures) comprised of major students (NS333).

Microbiology (Bethel College): Fall, 2014

- Taught and administered lecture (~3 hrs/week) and labs (~9 hrs/week) (taught two 1 1/2 hr lectures, three 3 hr labs) comprised of major students and nursing students (BIOL312/L).

Molecular Cell Biology (Bethel College): Fall, 2014

- Taught and administered lecture (~3 hrs/week) (taught three 1 hr lectures) comprised of major students (BIOL308).

Microbiology (Tarrant County College): Summer, 2014 (session 1)

- Taught and administered lecture (~8 hrs/week) and labs (~10 hrs/week) (taught four 2 hr lectures, four 2.5 hr labs) comprised of pre-nursing/allied health major students (2420). Office hours ~1 hr/week)

Introductory Biology (Dallas County Community College District): Spring, 2014

- Taught and administered lecture (~3 hrs/week) and labs (~4 hrs/week) (taught two 1 1/2 hr lectures, two 2 hr labs) comprised of non-major students (1408) first semester lectures and labs.)

Introductory Biology (Tarrant County College): Fall, 2013

- Taught and administered lecture (~4 hrs/week) and labs (~4 hrs/week) (taught two 2 hr lectures, two 2 hr labs) comprised of non-major students first (1408) semester lectures and labs. Office hours ~1 hr/week)

Introductory Biology (Tarrant County College): Summer, 2013 (session 2)

- Taught and administered lecture (~8 hrs/week) and labs (~8 hrs/week) (taught four 2 hr lectures, four 2 hr labs) comprised of biology major students (1407). Office hours ~1 hr/week)

Introductory Biology (Tarrant County College): Summer, 2013 (session 1)

- Taught and administered lecture (~8 hrs/week) and labs (~8 hrs/week) (taught four 2 hr lectures, four 2 hr labs) comprised of biology major students (1406). Office hours ~1 hr/week)

Introductory Biology (Tarrant County College): Spring, 2013

- Taught and administered lecture (~3 hrs/week) and labs (~2 hrs/week) comprised of non-major students (1409) lectures and labs. Office hours ~1 hr/week)

Introductory Biology (Tarrant County College): Spring, 2013

- Taught and administered lecture (~3 hrs/week) and labs (~2 hrs/week) comprised of non-major students (1408) lectures and labs. Office hours ~1 hr/week)

Bacterial pore-forming toxins (UCSD), Winter 2011-Summer 2012

- Developed curriculum, organized, and led a journal club based course
- Led presentations and facilitated discussion of manuscripts from the literature

Immunology of Parasitology (UCSD), Fall 2011

- Developed curriculum, organized, and led a journal club based course
- Led presentations and facilitated discussion of manuscripts from the literature

Mentored lab personnel (UCSD), Winter 2010-2012

- Taught 5 undergraduate students (2 that became masters students), 1 graduate student, and 1 technician how to critically think about biology
- Taught them how to design and run experiments and analyze the data

STARS (Science Teacher Access to Resources, UTSW) teacher

- Taught high school teachers how to think critically about biology
- Taught them how to design, perform, and analyze experiments
- Taught them how to explain biology to their students

SURF (Summer Undergraduate Research Fellowship, UTSW) teacher

- Taught college undergraduate students how to think critically about biology
- Taught them how to design, perform, and analyze experiments

Mentored lab personnel (UTSW), Fall 2005 – Fall 2010

- Taught rotation students and technicians how to critically think about biology
- Taught them how to design, perform, and analyze experiments

Instructor of Concepts: Physiological Systems Lab (DU), Fall 2002

- Lectured on physiological mechanisms in animals and plants
- Instructed students how to perform and analyze experiments

Instructor of Concepts: Cell and Molecular Biology Lab (DU), Winter 2002

- Lectured on molecular and cellular levels of organization
- Instructed students how to perform and analyze experiments

Instructor of Concepts: Cell in Biology Lab (DU), Spring 2002

- Lectured on ecology, biological diversity, and evolution
- Instructed students how to perform and analyze experiments

Instructor of Concepts in Biology Lab (DU), Fall 2003

- Lectured on physiological mechanisms in animals and plants
- Instructed students how to perform and analyze experiments

Instructor of General Genetics Lab (DU), Winter 2003

- Lectured on mechanisms of heredity with application to all forms of life
- Instructed students how to perform and analyze experiments

Instructor of Cell Structure and Function Lab (DU), Spring 2003

- Lectured on chemical composition of cells, structure and function of cell organelles, interrelationship of the cellular unit with its environment, mechanisms of energy conversion within cells, functions and excitability, contractility, and cell growth
- Instructed students how to perform and analyze experiments

Research Experience

Lipscomb University: Principle Investigator

2019-current

- Setup lab to continue research from Bethel College and postdoctoral work
- Studied the effect of Albendazole on L4 *C. elegans* using a health rating scale (0-3)
- Studied the effect of Albendazole on L1 *C. elegans* using a health rating scale (0-3).
- Studied the effect of Mebendazole on L1 *C. elegans* using a health rating scale (0-3).
- Studied the effect of Pyrantel Pamoate on L1 *C. elegans* using a health rating scale (0-3).
- Studied the effect of Ivermectin on L1 *C. elegans* using a health rating scale (0-3).
- Studied the effect of Nitazoxanide on L1 *C. elegans* using a health rating scale (0-3).
- Began talks of collaboration with Emily Troemel's Lab at UC San Diego

Bethel College: Principle Investigator

2014-2019

- Setup lab to continue research from postdoctoral work
- Studied the effect of Albendazole on *C. elegans* using a health rating scale (0-3)
- Studied the effect of Ivermectin on *C. elegans* to determine loss of potency

- Studied the effect of anthelmintic drugs on different developmental stages of *C. elegans* (L1 vs L4).
- Published manuscript with Kate Weaver (student) and Cassie May (colleague) (doi: 10.1371/journal.pone.0179376)

UCSD: Postdoctoral fellowship Advisor: Dr. Raffi V. Aroian Ph.D. 2010-2012

- Studied *Caenorhabditis elegans* responses to anti-worm drugs including Ivermectin, Albendazole, Pyrantel, Nitazoxanide, and, in particular, Cry proteins from *Bacillus thuringiensis* that are invertebrate-specific, pore-forming toxins.
- Studied the delivery of Cry proteins using probiotic bacteria (*Lactobacillus gasseri*, *Lactococcus lactis*, *Bacillus cereus*, *Bacillus subtilis*, and *Bacillus coagulans*) in mice infected with the mouse parasite *Heligmosomoides bakeri* or *Trichuris muris* (whipworm) or in hamsters infected with the human parasite *Ancylostoma ceylanicum* (hookworm) as potential treatment, and examined the effects using McMaster fecal egg counts and intestinal worm burden counts.
- Studied secretion of Cry proteins from probiotic bacteria including extensive experience in Western analysis and Coomassie analysis.
- Extensive experience in rodent handling and gavaging.
- Extensive experience maintaining *C. elegans*, and using *C. elegans* for liquid or agar assays.
- Extensive experience with RNAi assays on *C. elegans*.
- Extensive experience with fluorescent dissecting microscopy.
- Extensive experience in bacterial transformation and colony PCR.
- Some experience with *C. elegans* genetics, including creating a stable strain expressing a GFP fusion.
- Some experience with bioinformatics, specifically helping develop a software program to image process *C. elegans* (or other nematodes) in the presence of known nematicidal or experimental drugs in order to come up with a quantitative assay for toxicity.
- Some experience in protein fingerprinting and DNA fingerprinting.
- Some experience in antibody affinity purification.

UTSW: Graduate school Advisor: Dr. Matthew H. Porteus M.D. Ph.D. 2005-2010

- Studied viral delivery of components necessary for gene therapy by gene correction using homologous recombination (HR) in a variety of both human and mouse cell types.
- Extensive experience with the production of Adenovirus, Adeno-Associated Virus, and Lentivirus.
- Experience with the quantification of the viral titer of various viral preps by techniques such as Quantitative Reverse Transcription Polymerase Chain Reaction (Q-RT-PCR), RT-PCR, and p24 Enzyme-linked Immunosorbent Assay (ELISA).
- Extensive experience with designing primers, PCR, restriction digest, gel electrophoresis and ligation in cloning plasmids.
- Extensive experience in DNA amplification by mini, midi, maxi, and giga preps (QIAGEN).
- Extensive experience in various tissue culture procedures including maintaining cell cultures, creating stable cell lines, and non-viral delivery techniques such as electroporation, calcium phosphate mediated transfection, lipofection, and nucleofection.

- Extensive experience analyzing gene targeting efficiencies and transduction efficiencies by flow cytometry.
- Experience in collection of human umbilical cord blood from placentas and isolation of CD34+ blood stem cells using Magnetic-activated cell sorting (MACS).
- Some experience with Southern analysis.

DU: Undergraduate
Fogleman Ph.D.2002-2004

Advisor: Dr. Egbert Schwartz Ph.D., Dr. Murugaverl Ph.D., Jim

- Studied various strains of bacteria to find a strain that converted hazardous chromium to non-hazardous chromium.
- Gained experience with PCR, troubleshooting, and basic laboratory skills.
- Studied attachment of a peptide to cells.
- Gained experience with Matrix Assisted Laser Desorption Ionization Time of Flight Mass Spectrometry (MALDI-TOF-MS)
- Studied the genetics of the fruit fly *Drosophila melanogaster*
- Gained experience in culturing and analyzing flies
- Teaching Assistant for freshman and sophomore level labs including: biology, genetics, and cell structure and function (2002-2004)

University of New Mexico (UNM) Advisor: George Montoya and Dr. Richard Baumgartner
Ph.D. 2000-2002 (Winter and Summer Breaks)

- Studied ageing, genetics, and epidemiology
- Gained experience with DNA extraction from human blood, PCR, restriction enzyme analysis of Restriction Fragment Length Polymorphisms (RFLPs).

Publications

Guide to publications:

Underlined is my contribution. *Italics* is an undergraduate student. * is masters student.

Articles as corresponding author:

Weaver KJ, Hu Y, May CJ, Ellis BL (2017). Using free-living *Caenorhabditis elegans* as a Model for Anthelmintics Study. PLoS One; e0179376.

Articles:

Ellis BL, Potts PR, Porteus MH (2011) Creating higher titer lentivirus with caffeine. Hum Gene Ther 22: 93-100.

Ellis BL, Hirsch ML, Porter SN, Samulski RJ, Porteus MH (2013) Zinc-finger nuclease mediated gene correction using single AAV vector transduction and enhancement by Food and Drug Administration-approved drugs. Gene Ther. 20(1): 35-42.

Ellis BL, Hirsch ML, Barker JC, Connelly JP, Steininger III RJ, Porteus MH (2013). A Survey of *ex vivo/in vitro* Transduction Efficiency of Mammalian Primary Cells and Cell Lines with Nine Natural Adeno-associated Virus (AAV1-9) and One Engineered Adeno-associated Virus Serotype. Virology J. 10:74.

- Hu Y, Miller MM, Derman AI, Ellis BL (*I disagree with the order of authorship as this was my project before I left, please ask for more information*), Monnerat RG, et al. (2013) Bacillus subtilis Strain Engineered for Treatment of Soil-Transmitted Helminth Diseases. Appl Environ Microbiol 79: 5527-5532.
- Hu Y, Ellis BL, Yiu YY, Miller MM, Urban JF, et al. (2013) An extensive comparison of the effect of anthelmintic classes on diverse nematodes. PLoS One 8: e70702.
- Somvanshi VS, Ellis BL, Aroian RV (2014). Nitazoxanide: Nematicidal Mode of Action and Drug Combination Studies. Mol Biochem Parasitol 193(1): 1-8.
- Hu Y, Scheib U, Ellis BL, Miller MM, Yiu Y, Aroian RV. Broad spectrum of Cry5B as an anthelmintic (PLoS NTD, in preparation).

Abstracts:

- Will Huff, Grace Proffitt, Brian L. Ellis. An Experimental Application of Video Tracking Software for a Quantitative Health-Rating of Caenorhabditis elegans in Various Concentrations of Albendazole (2021). 10th Annual Student Scholar Symposium.*
- Allison Lewis* and Brian L. Ellis. Efficacy of Ivermectin as an Anthelmintic on Larval Stage 1 of C. elegans (2021). 10th Annual Student Scholar Symposium.*
- Jake Sanzone, Keyra Patterson, Brian L. Ellis. Using A Health Rating System to Evaluate the Effectiveness of Albendazole On Caenorhabditis elegans in L1 Larval Stage as A Model for Anthelmintic Study (2021). 10th Annual Student Scholar Symposium.*
- Mason Long, Mary Mousa, Keyra Patterson, Brian L. Ellis. Determining The Baseline for Healthy L1 Caenorhabditis Elegans in Liquid Culture as A Model for Anthelmintic Study (2021). 10th Annual Student Scholar Symposium.*
- Jarod Sutter, Brian L. Ellis. Using a health-rating system to determine the effect of anthelmintics using L1 C. elegans (2018). URC 2018 Butler Undergraduate Research Conference.*
- Kathryn J. Weaver, Cassandra J. May, Brian L. Ellis. Using a Health-rating System to Evaluate the Usefulness of C. elegans as a Model for Anthelmintic Study (2017). 21st International C. elegans Meeting.*
- Kathryn Weaver, Brian L. Ellis. The Use of Caenorhabditis elegans as a Model for Anthelmintic Drug Study (2017). Indy Worm Meeting.*
- Kyle Busse, Brian L. Ellis. Testing anthelmintics on C. elegans at the first larval stage (L1) (2017). URC 2017 Butler Undergraduate Research Conference.*
- Kara Gowens, Brian L. Ellis. Combinatorial Testing of nitazoxanide and tizoxanide with other anthelmintics on C. elegans (2017). URC 2017 Butler Undergraduate Research Conference.*
- Kathryn Weaver, Brian L. Ellis. The Use of Caenorhabditis elegans as a Model for Anthelmintic Drug Study (2017). URC 2017 Butler Undergraduate Research Conference.*
- Jordan Schoppen, Brian L. Ellis. Using C. elegans to evaluate ivermectin toxicity over time (2017). URC 2017 Butler Undergraduate Research Conference.*
- Kathryn Weaver, Brian L. Ellis. Is C. elegans a good model for anthelmintic discovery/study? (2016). URC 2016 Butler Undergraduate Research Conference.*
- Yan Hu, Melanie Miller, Alan Derman, Brian L. Ellis, Daniel Huerta, Joseph Pogliano, Raffi Aroian (2013). Treat worm infections with crystal protein expressing in probiotic like bacteria. 19th International C. elegans Meeting.*
- Brian L. Ellis, Alan Derman, James Lui, Yan Hu, Melanie Miller, Kristie Woo, Alan Kelleher, Joe Pogliano, Kit Pogliano, Raffi Aroian (2012). Complete cure of human hookworm in a hamster model using a novel approach with Cry5B from Bacillus thuringiensis. ASTMH (American Society of Tropical Medicine and Hygiene) 61st Annual Meeting.*
- Yan Hu, Brian L. Ellis, Jillian Sesar, Melanie Miller, Ying Yiu, Raffi V. Aroian (2012). Bacillus thuringiensis crystal proteins as cures for intestinal roundworms. 45th Annual Meeting of the Society for Invertebrate Pathology.*

- Yan Hu, Brian L. Ellis, Ying Yiu, Melanie Miller, Bin Zhan, Joseph Urban, Raffi Aroian (2012). What can roundworms tell us about anthelmintics? Gordon Conference: Host-Parasite Interactions, Biology of.
- Yan Hu, Brian L. Ellis, *Ying Yiu*, Melanie Miller, Joseph Urban, Bin Zhan, Raffi Aroian (2011). What can parasitic and free-living roundworms tell us about anthelmintics? ASTMH 60th Annual Meeting.
- Raffi Aroian, Yan Hu, Brian L. Ellis (accidentally omitted, RA later placed BLE here), *Ying Yiu*, Jillian Sesar, Melanie Miller, Joseph Urban, Bin Zhan, Hui Fan, Partho Ghosh (2011). *Bt* Crystal pore-forming proteins as anthelmintics. Symposium ‘Membrane Ion-channels in Helminth Parasites: Resistance and Sites of Action for Anthelmintics’.
- Yan Hu, Brian L. Ellis, *Ying Yiu*, Melanie Miller, Joseph Urban, Bin Zhan, Raffi Aroian (2011). What can parasitic and free-living roundworms tell us about anthelmintics? Symposium ‘Membrane Ion-channels in Helminth Parasites: Resistance and Sites of Action for Anthelmintics’.
- Brian L. Ellis, Yan Hu, *Ying Liu*, Raffi Aroian (2011). Update: Progress made toward clinical use of the *Bacillus thuringiensis* (Bt) Cry5B protein as an anthelmintic. 18th International *C. elegans* Meeting.
- Brian L. Ellis, Matthew L. Hirsch, Jenny Barker, Richard J. Samulski, Matthew H. Porteus (2011). Zinc-Finger Nuclease-Mediated Gene Correction Using Single AAV Vector Transduction and Enhancement by FDA Approved Drugs. ASGCT annual meeting.

Invited Lectures

- “*C. elegans* as a model for anthelmintic drug discovery and study” (2018). Wabash College, Crawfordsville, IN
- “Finding/Studying Drugs to Fight Soil-Transmitted Helminths (STHs)” (2017). Come Hear Educational Wisdom (CHEW). Bethel University (formerly College), Mishawaka, IN.
- “Finding/Studying Drugs to Fight Soil-Transmitted Helminths (STHs)” Indy Worm Meeting (2017). University of Indiana, Bloomington, Bloomington, IN.
- “Is *C. elegans* a good model for studying Soil-transmitted helminths (STHs)?” Faculty Colloquium (2015). Bethel College, Mishawaka, IN.

Reviewed primary articles in:

- Animals Journal (Special edition on parasites) (2021)
- International Journal for Parasitology: Drugs and Drug Resistance (2018)

Fellowships/Grants

- Coauthor for a Supporting Structures grant from the CCCU/SCIO to fund support for undergraduate research and diversity in a faith and science framework but was not funded (Lipscomb University, 2021)
- Wrote a grant for, and was awarded, the Faculty Research Grant (Bethel College, 2014-2016).
- Bill and Melinda Gates Foundation: Grand Challenges in Global Health. Instrumental in data acquisition and grant writing/editing for Phase II (1 million dollars) for the Aroian Lab at UCSD (2012).
- Wrote a grant/applied for the Ruth L. Kirschstein National Research Service Award. Received an impact/priority score of 40 (a “very good” score) but was not funded because it was below the funding line (2012).

Current and Past Professional Membership

- American Society of Tropical Medicine and Hygiene
- Genetics Society of America
- American Scientific Affiliation

Meetings/Conferences Attended:

10th Annual Student Scholar Symposium (Virtual): (2021)

Lipscomb University, Nashville, TN

Two-Day Professional Grant Development Workshop at Vanderbilt University (led by the Grant

Training Center, learned about finding grants, writing for grants, and began writing a grant) (2019)

Vanderbilt University, Nashville, TN

REIL-Biology Workshop at ABRCMS (Annual Biomedical Research Conference for Minority Students) (learned about creating inquiry-based introductory biology labs) (2018)

JW Marriott, Indianapolis, IN

ASA (American Scientific Affiliation) 2018 – 73rd Annual Meeting: Bioethics and

Biotechnology: (2018)

Gordon College, Wenham, MA

Butler URC (undergraduate research conference): URC 2018 (2018)

University of Butler, Indianapolis, IN

Indy Worm Meeting (2017)

University of Indiana, Bloomington, Bloomington, IN

21st International *C. elegans* Meeting (2017)

University of California, Los Angeles, Los Angeles, CA

Butler URC (undergraduate research conference): URC 2017 (2017)

University of Butler, Indianapolis, IN

Butler URC (undergraduate research conference): URC 2016 (2016)

University of Butler, Indianapolis, IN

Wesleyan Holiness Consortium Conference (2015)

Country Lake Christian Retreat Center, Underwood, IN

New Conversations in Science and Religion: What Difference Might Critical Realist Philosophy Make? (2015)

University of Notre Dame, Notre Dame, IN

20th International *C. elegans* Meeting (2015)

University of California, Los Angeles, Los Angeles, CA

American Society of Tropical Medicine and Hygiene 61st Annual Meeting (2012)

Atlanta Marriott Marquis, Atlanta, GA

18th International *C. elegans* Meeting, 2011

University of California, Los Angeles, Los Angeles, CA

Research Students/Trainees Mentored (undergraduates unless specified):

Lipscomb University

- Sandra Cumming (thesis track masters) 2021-current
- Kyle Griffith (masters)
- Leopold Nkenbeza (masters) 2021
- Jessica Trafelet (masters) 2021
- Allison Lewis (masters) 2021
- Tashna Placide (masters) 2021
- Mason Long 2021-current
- Mary Mousa 2020-current

- Viveke Rei (masters) 2020-2021
- Jasmine Milligan (masters) 2020
- Deana Campbell (masters) 2020
- Oluwatoyin “Ope” Duyile (masters) 2020
- Nathan Stein (masters) 2020
- Jake Sanzone 2019-current
- Ragan Chaney 2019-2020
- Keyra Patterson 2020-current
- Will Huff 2019-2021
- Grace Proffitt 2019-2021
- Madeline Surdaki 2019-2020

Bethel University (formerly College)

- Ellie Troyer 2018-2019
- Cayden Koselak 2018
- Ashley Grabowski 2018-2019
- Kassie Howard 2018-2019
- Robert Cole Moore 2017-2018
- Jarod Sutter 2017-2019
- Kyle Busse 2016-2017
- Kara Gouwens 2016-2018
- Anthony Houston 2016
- Jordan Schoppen 2015-2017
- Ryan Strozier 2015-2016
- Angel Hedglin 2015-2016
- Kate Weaver 2015-2018
- Erica Zachrich 2015
- Angela King 2015

UCSD

- James Lui, 2012
- Annie Yu, 2012
- Melanie Miller (technician), 2011-2012
- Kristie Ann Woo 2010-2012
- Matthew Deshong, 2011-2012
- Arash Safavi 2010-2012
- Sandy Chang 2010-2012

UTSW

- Brody Holohan (PhD candidate), 2009
- Various rotation students (PhD candidates) 2005-2010

Undergraduate Lab Assistants/Teaching Assistants Supervised/Mentored:

Lipscomb

- Reagan Bain (2021)

Bethel

- Robert Cole Moore (2018)
- Noah Troyer (2018, 2018)
- Anna Nisen (2018)
- Jarod Sutter (2017, 2018)
- Kathryn Weaver (2017)
- Kara Gouwens (2017)
- Brooke Thomas (2017)
- Sydney Sheltz (2016)
- Albert Gongwer (2016)
- Jordan Schoppen (2015, 2017)
- Angel Hedglin (2015)
- Rachel Miller (2014)
- Aubrey Husak (2014)
- Gavin McGrath (2014)

UCSD

- Lillian Chang (2010-2012)
- Jenna Okerblom (2010-2012)

Committees/Administration Service:

Lipscomb University

- Honor's College Committee 2021-present
- Developed a new plan for undergraduate research 2020-2021
- Biology Department Recruiting Committee member 2021-current
- Honor's College Faculty Advisory Committee member 2021-current
- HPAC (Health Professions Advising Committee) member 2021-current
- Faith and Science Chapel Leader 2020-current
- Super Users Campus Nexus 2020-current
- Undergraduate Advising 2019-current

Bethel College

- Institutional Effectiveness Committee 2018-2019
- Learning Resources Committee 2018-2019
- Textbook Provision Ad Hoc Committee 2017-2018
- Student Development Committee 2015-2018
- Chemical/Biological Health and Safety Committee 2014-2019
- Undergraduate Advising 2014-2019

Interviews for students applying to graduate school/medical school/etc:

- Lipscomb University (HPAC: Health Professions Advising Committee):
- Lauren Hicks (2021) –
 - Keyra Patterson (2021) –
 - Michael Cannone (2021) –
 - Sam Milhollin (2021) –
 - Tucker Hamar (2021) –
 - Grant Hithcock (2021) –

- David LeCates (2021) –
- Julia Palacios (2021) –
- Bridget Bailey (2021) –
- Hermela Demma (2021) –

Bethel College:

- Sydney Sheltz (2018) – accepted to graduate school
- Kara Gouwens (2018) – applying to medical school
- Bethany Cooke (2017) – accepted to medical school
- Anthony Houston (2016) – accepted to P.A. school
- Angel Hedglin (2016) – accepted to medical school
- Ben Speicher (2015) – accepted to P.A. school
- Rachel Miller (2015) – accepted to graduate school
- Rebekah Witzig (2014) – accepted to P.A. school
- Note, we have had many more go on to post-graduate education, however, these are the students that took advantage of our offer to hold an interview.

Awards and Honors

UTSW

- Cell Regulation Program Representative 2006, 2009

DU

- Hornback Scholar (4.0 GPA)
- Edward H. Styczen Scholar
- Dean’s List (above 3.75 GPA)
- Golden Key International Honor Society Member 2004-Present

Volunteer Activities/Community Service

Youth baseball Coach	2020-Present
One on one mentoring/Joshua Project	2013-Present
Youth basketball coach	2020-Present
Youth soccer coach	2018-Present
Children’s Sunday School (ages 2 and 3)	2014-2018
Young Life Leader	2000-2013
Habitat for Humanity	Multiple Occasions
Carter Care Center Blood Drive	Multiple Occasions

References

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615-373-0601