Bradley C. Bundy, Ph.D.

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Dr. Bundy is a Professor in the Department of Chemical Engineering at Brigham Young University as of 9/1/2020. His university appointment consists of teaching/mentoring, research, and citizenship. His long-term objectives are to:

1. Maintain a high-quality research program focused in biochemical engineering,
2. Continually improve the educational/mentoring experience of undergraduate/graduate students with a focus on enabling students to achieve/exceed their life goals, and
3. Better the professional community, department, and university through meaningful citizenship.

Toward this objective, during the past 10.5 years at BYU, he has published **36** peer-reviewed archival articles, authored **146** technical presentations, obtained **$1.5M** USD in extramural PI awards, mentored **$162K** USD in extramural fellowships, taught **64** classes, and mentored **11** graduate students and **140** undergraduates as research advisor.

Education

2009 Ph.D. Chemical Engineering, Stanford University, Stanford, CA
2006 M.S. Chemical Engineering, Stanford University, Stanford, CA
2004 B.S. Chemical Engineering, Brigham Young University, Provo, UT

Research Positions

2020 – Pres **Associate Professor**, Brigham Young University, Dept. of Chem. Engineering
Current Research Focuses:

1) Engineering Shelf-stable “Just-add-water” Protein Therapeutic Production,
2) Engineering a Fast Low-cost Biosensors for Cancer and Infection Prevention,
3) Optimizing Cancer Biotherapeutics with Site-specific PEGylation,
4) Building Better Biocatalysts through Site-specific Enzyme Immobilization,
5) Rewriting and Expanding the Proteomic Code with Unnatural Amino Acids,
6) Developing Vaccines and Biocatalysts with Virus-like Particles,
7) Streamlining Cell-free Synthetic Biology Procedures

2015 – 2020 **Associate Professor**, Brigham Young University, Dept. of Chem. Engineering
Research activity focus as described under Associate Professor above.

2009 – 2015 **Assistant Professor**, Brigham Young University, Dept. of Chem. Engineering.
Research activity focus as described under Associate Professor above.

2004 – 2009 **Ph.D. Student**, Lab of Dr. James Swartz, Stanford University
Dissertation: “A Cell-free Approach to Virus-like Particle Production and Post-translational Modification.

2004 **Lithography Research & Development Intern**, Micron Technology Inc.
Engineered optical lithography techniques for next generation memory devices.

Teaching Experience

2009 – Pres **Instructor**, Brigham Young University
Courses Include:

1) ChEn 191: Freshmen Seminar

- Redesigned lectures and homework for greater focus on “Make It Stick” learning strategies, life goals, and career placement.

2) ChEn 170: Introduction to Chemical Engineering
   - Created a new open-ended and individually-personalized project experience focused on current engineering grand challenges.
3) ChEn 263: Computational Tools for Chemical Engineers
   - Created a new project experience to help practice a commonly missed heat transfer concept.
4) ChEn 273: Chemical Process Principles
   - Developed new in-class demonstrations to solidify conceptually challenging concepts.
5) ChEn 291: Career Skills 1
   - Create this new required course by request from the department.
6) ChEn 376: Heat and Mass Transfer
   - Created a new individually-personalized, service-learning-focused, group project experience that was focused on developing technical, citizenship, scholarship, and leadership skills.
7) ChEn 475: Unit Operations Lab 1
   - Reorganized content and class schedule for increased focus on developing statistics and writing skills; added design components to projects.
8) ChEn 493R: Job Finding
   - Created this new elective course which address an unmet need of better student placement. Students who take this course are 35% more likely to have obtained employment at graduation and the data suggests they are more likely to find a job in their company and industry of choice. I voluntarily teach this course which does not count as part of my teaching load.
9) ChEn 519: Graduate Biochemical Engineering.
   - Completely recreated this course with content sourced from recent seminal papers rather than textbooks to keep up with this rapidly advancing field.

2007 – 2009 **Department Teaching Assistant Trainer**, Stanford University
Prepared and conducted annual 2-day teaching assistant training required for all chemical engineering graduate students and performed ad hoc training.

2007 – 2009 **Head Teaching Assistant Mentor**, Stanford University
Co-established and co-directed a teaching assistant peer-mentoring program to improve the quality of chemical engineering TAs.

2007 – 2009 **Center for Teaching and Learning Department Liaison**, Stanford University
Served as the graduate student liaison between the Stanford Center for Teaching and Learning Center and the Department of Chemical Engineering by learning and communicating best university teaching practices to the department.

2006 **Lecturer/Teaching Assistant**, Stanford University
Served as teaching assistant and lectured weekly for the Chemical Engineering 150/250: Biochemical Engineering and Chemical Engineering 355: Advanced Biochemical Engineering courses.

Extramural Awards and Honors

2018 Invited Keynote Speaker, Advances in Biocatalysis Section, AIChE

2018 Cell-free Methods Patent Selected as Freedom from Cancer Startup Challenge Winner
2017 Invited Plenary Lecturer, Chemical Engineers in Medicine Topical Area, AIChE
2015 Outstanding Reviewer Award, Vaccine (Journal)
2014 Invited Plenary Lecturer, Cell-free Protein Synthesis 4th International Status Seminar
2013 NSF CAREER Award (2013-2019)
2013 DARPA Young Faculty Award (2013-2015)
2012 Top 50 Ad Hoc Reviewer of Biotechnology and Bioengineering (Journal)
2007 3rd Place Poster Award, Stanford Engineering Fair
2004 Stanford Graduate Fellowship
2004 Micron Technologies Graduate Fellowship
2004 Tau Beta Pi Graduate Fellowship
2003 Best Poster Award, Micron Technologies Student Symposium
2003 Edwin S. Hinckley Scholar
2002 Micron Technologies Scholar

Intramural Awards and Honors

2020 Chemical Engineering Research Professorship, College of Engineering, BYU
2019 Outstanding Faculty Award, Department of Chemical Engineering, BYU
2018 Outstanding Faculty Award, Department of Chemical Engineering, BYU
2017 Excellence in Education Award, BYU College of Engineering
2017 Outstanding Faculty Teaching Award for the Department of Chemical Engineering, BYU
2016 University Young Scholar Award, BYU
2016 Outstanding Faculty Teaching Award for the Department of Chemical Engineering, BYU
2013 Outstanding Faculty Teaching Award for the Department of Chemical Engineering, BYU
2011 Outstanding Faculty Teaching Award for the Department of Chemical Engineering, BYU
2010 Outstanding Faculty Teaching Award for the Department of Chemical Engineering, BYU
2004 BYU Chemical Engineering Undergraduate Research Presentation Winner
2004 AIChE Outstanding Chemical Engineering Senior Award
2003 Bennion Oustanding Chemical Engineering Junior Award

Extramural Mentored Undergraduate Student Awards

2019 Outstanding Poster Award, American Society of Microbiology Regional Meeting. Nelson JAD (Student), Bundy BC (Faculty Research Advisor/Mentor).

2018 1st Place National Undergraduate Research Paper Competition. AIChE Annual International Meeting. Wilkerson JW (Student), Bundy BC (Faculty Research Advisor/Mentor). *Premiere Undergraduate Research Competition for Chemical Engineers in the Nation. Must qualify by winning 1st place at the regional competitions.*

2018 1st Place Rocky Mountain Regional Undergraduate Research Paper Competition. AIChE Regional Meeting. Wilkerson JW (Student), Bundy BC (Faculty Research Advisor/Mentor).

2018 Caltech Summer Undergraduate Research Fellow. Nielsen GH (Student), Bundy BC (Faculty Advisor/Mentor). 6/2018-8/2018.

2017 3rd Place National Undergraduate Research Paper Competition. AIChE Annual International Meeting. Earl CC (Student), Bundy BC (Faculty Research Advisor/Mentor). *Premiere Undergraduate Research Competition for Chemical Engineers in the Nation. Must qualify by winning 1st place at the regional competitions.*

2017 1st Place Rocky Mountain Regional Undergraduate Research Paper Competition. AIChE Regional Meeting. Earl CC (Student), Bundy BC (Faculty Research Advisor/Mentor).

2015 1st Place National Undergraduate Research Poster Competition. AIChE Annual International Meeting. Muhlestein C (Student), Bundy BC (Faculty Research Advisor/Mentor).

Peer-Reviewed Publications (38 total; 35 as first/corresponding author; 36 while at BYU)
graduate student coauthors directly advised by me are underlined (**57** instances)
undergraduate student coauthors directly advised by me are italicized (**52** instances)
5-year 2017 impact factor (IF) and citation number are also noted.

1. Hunt JP, Wilding KM, *Barnett RJ*, *Robinson H*, Soltani M, *Cho J*, **Bundy BC**. 2020. Engineering Cell-free Protein Synthesis for High-yield Production and Human Serum Activity Assessment of Asparaginase: Toward On-demand Treatment of Acute Lymphoblastic Leukemia. *Biotechnology Journal*. 15(4):e1900294. (IF 3.5; Cited 0)
2. Hunt JP, Zhao EA, Soltani M, *Frei M*, *Nelson JAD*, **Bundy BC**. 2019. Streamlining the Preparation of "Endotoxin-free" Cell Extract with Auto-induction Media for Rapid Cell-free Protein Synthesis of Therapeutic Proteins. *Synthetic and Systems Biology*. Cell-free Synthetic Biology Special Issue. 4(4):220-224. (IF new journal; Cited 0)
3. Wilding KM, Hunt JP, *Wilkerson JW*, *Funk PJ*, *Swensen RL*, *Carver WC*, *Christian ML*, **Bundy BC**. 2019. Endotoxin-Free *E. coli*-Based Cell-Free Protein Synthesis: Pre-Expression Endotoxin Removal Approaches for on-Demand Cancer Therapeutic Production. Biotechnology Journal. 14(3):e1800271. (IF 3.5; Cited 5)
4. Wilding KM, Zhao EL, *Earl CC*, **Bundy BC**. 2019. Thermostable Lyoprotectant-Enhanced Cell-free Protein Synthesis for On-demand Endotoxin-free Therapeutic Production. New Biotechnology. 53:73-80. (IF 3.5; Cited 0)
5. Yang SO, *Nielsen GH*, Wilding KM, Cooper MA, Wood DW, **Bundy BC**. 2019. Towards On demand E. coli-based Cell-free Protein Synthesis of Tissue Plasminogen Activator. Methods and Protocols. Cell-free Synthetic Biology Special Issue. 2(2): 52. (IF N/A New Journal; Cited 0)
6. Saleh AM, Wilding KM, Calve S, **Bundy BC,** Kinzer-Ursem TL. 2019. Non-canonical Amino Acid Labeling in Proteomics and Biotechnology. Journal of Biological Engineering. Emerging Leaders in Biological Engineering Special Issue. 13:43. (IF 3.6; Cited 1)
7. **Bundy BC**, Hunt JP, Jewett MC, Swartz JR, Wood DW, Frey DD, Rao G. 2018. Cell-free Biomanufacturing. *Current Opinion in Chemical Engineering*. 22:177-183. (IF 4.3; Cited 3)
8. *Davis BR*, Soltani M, *Ford H*, *Nelson JAD*, **Bundy BC**. 2018. Reengineering cell-free protein synthesis as a biosensor: Biosensing with transcription, translation, and protein-folding. *Biochemical Engineering Journal.* Cell-free Systems Special Issue. 138:165-171 (IF 3.1; Cited 5)
9. *Wilkerson JW*, Yang SO, *Funk PJ*, *Stanley SK*, **Bundy BC**. 2018. Nanoreactors: Strategies to Encapsulate Enzyme Biocatalysts in Virus-like Particles. *New Biotechnology*. 44:59-63. (IF 3.5; Cited 10)
10. Yang SO, Saleh ASM, *Earl CC*, Tang MJS, Smith MT, Hunt JP Wood DW, **Bundy BC**. 2018. Biosensing Estrogenic Endocrine Disruptors in Human Blood and Urine: A RAPID Cell-free Protein Synthesis Approach. Disruptors. *Toxicology and Applied Pharmacology.* 345:19-25. (IF 3.9; Cited 11)
11. Wilding KM, Schinn SM, *Long EA*, **Bundy BC**. 2018. The Emerging Impact of Cell-free Chemical Biosynthesis. *Current Opinion in Biotechnology*. 53:115-121. (IF 8.2; Cited 21)

12. Wilding KM, Smith AK, *Wilkerson JW*, Bush DB, Knotts TA, **Bundy BC**. 2018. The Locational Impact of Site-Specific PEGylation: Streamlined Screening with Cell-free Protein Expression and Coarse-grain Simulation. *ACS Synthetic Biology*. 7(2):510-521. (IF 5.2; Cited 12)
13. *Earl CC*, Smith MT, RA Lease, **Bundy BC**. 2018. Polyvinylsulfonic acid: A Low-cost RNase inhibitor for enhanced RNA preservation and cell-free protein translation. *Bioengineered*. 9(1):90-97. (IF 2.0; Cited 4)
14. Hunt JP, Schinn SM, *Jones MD*, **Bundy BC**. 2017. Rapid, Portable Detection of Endocrine Disrupting Chemicals Through Ligand-Nuclear Hormone Receptor Interactions. *Analyst*. 142(24):4595-4600. (IF 3.8; Cited 3)
15. Saleh ASM, Tang MJS, Smith MT, *Hunt JM*, Law RA, Wood DW, **Bundy BC**. 2017. Cell-Free Protein Synthesis Approach to Biosensing hTRβ-Specific Endocrine Disruptors. *Analytical Chemistry*. 89(6):3395-3401. (IF 6.0; Cited 22)
16. Salehi ASM, Smith MT, Schinn SM, *Hunt JM*, *Muhlestein C*, Diray-Arce J, Nielsen BL, **Bundy BC**. 2017. Efficient tRNA Degradation and Quantification in Escherichia Coli Cell Extract Using RNase-Coated Magnetic Beads: A Key Step Towards Codon Emancipation. *Biotechnology Progress*. 33(5):1401–1407. (IF 2.0; Cited 9)
17. Schinn SM, *Bradley W, Groesbeck A*, Wu JC, Broadbent A, **Bundy BC**. 2017, Rapid In Vitro Screening for the Location-Dependent Effects of Unnatural Amino Acids on Protein Expression and Activity. *Biotechnology and Bioengineering*. 114(10):2412–2417. (IF 4.2; Cited 17)
18. *Hunt JP*, Yang SO, Wilding KM, **Bundy BC**. 2017. The Growing Impact of Lyophilized Cell-free Protein Expression Systems. *Bioengineered*. 8(4):325-330. (IF 2.0; Cited 16)
19. Salehi ASM, *Earl CC*, *Muhlestein C*, **Bundy BC**. 2016. Escherichia coli-based Cell-free Extract Development for Protein-based Cancer Therapeutic Production. *The International Journal of Developmental Biology*. Cell-free Extract in Development and Cancer Research Special Issue. 60:237-243. (IF 2.1; Cited: 10)
20. Schinn SM, Broadbent A, *Bradley WT*, **Bundy BC**. 2016. Protein Synthesis Directly from PCR: Progress and Applications of Cell-free Protein Synthesis with Linear DNA. *New Biotechnology*. 33(4): 480-487. (IF 3.5; Cited 21)
21. Smith MT, Salehi ASM, *Bennett AM*, Williams JB, Pitt WG, **Bundy BC**. 2016. Cell-free Synthesis of a Cytotoxic Cancer Therapeutic: Onconase Production and a Just-add-water Cell-free System. *Biotechnology Journal*. 11(2): 274-281. (IF 3.5; Cited 57)
22. Poornejad N, Momtahan N, Salehi ASM, Scott D, Fronk C, Roeder BL; Reynolds PR, **Bundy BC**, Cook AD. 2016. Efficient decellularization of whole porcine kidneys improves reseeded cell behavior. *Biomedical Materials*. 11(2): 025003. (IF 2.9; Cited 19)
23. Wu JC, *Hutchings CH*, *Lindsay MJ*, *Werner CJ*, **Bundy BC**. 2015. Enhanced Enzyme Stability through Site-directed Covalent Immobilization. *Journal of Biotechnology*. 193(1):83-90. (IF 2.8; Cited 71)
24. Smith MT, *Bennett AM*, *Hunt JM*, **Bundy BC**. 2015. Creating a Completely Cell-free System for Protein Synthesis. *Biotechnology Progress*. 31(6):1716-1719. (IF 2.0; Cited 27)
25. Smith MT, *Wilding KM*, *Hunt JM, Bennett AM*, **Bundy BC**. 2014. The Emerging Impact of Cell-free Synthetic Biology. *FEBS Letters*. 588(15):2755-2761. (IF 3.4; Cited 72)
26. Smith MT, *Bennett AM*, Grubman MJ, **Bundy BC**. 2014. Foot and Mouth Disease: Technical and Political Challenges to Eradication. *Vaccine*. 32(31):3902-3908. (IF 3.3; Cited 29)

27. Smith MT, *Berkheimer SD*, *Werner CJ*, **Bundy BC**. 2014. Lyophilized Escherichia coli-based Cell-free Systems for Robust, High-density, Long-term Storage. *Biotechniques*. 56(4):186-193. (IF 2.6; Cited 45)
28. Shrestha P, Smith MT, **Bundy BC**. 2014. Cell-free Unnatural Amino Acid Incorporation with Alternative Energy Systems and Linear Expression Templates. *New Biotechnology*. 31(1):28-34. (IF 3.5; Cited 29)
29. Smith MT, *Hawes AK*, Shrestha P, *Rainsdon JM*, Wu JC, **Bundy BC**. 2014. Alternative Fermentation Conditions for Improved Escherichia coli-based Cell-free Protein Synthesis Requiring Supplemental Components for Proper Synthesis. *Process Biochemistry*. 49(2):217-222. (IF 3.0; Cited 23)
30. Smith MT, *Hawes AK*, **Bundy BC**. 2013. Reengineering Viruses and Virus-like Particles Through Covalent Chemical Functionalization. Current Opinion in Biotechnology. 24(4):620-626. (IF 8.2; Cited 76)
31. Arnaz KR, Wu J, **Bundy BC**, Jewett MC. 2013. Transforming Synthetic Biology with Cell-free Systems. In *Synthetic Biology*. Zhao H, Ed. Elsevier Inc. (Cited 15)
32. Wu J, Smith MT, *Varner CT*, **Bundy BC**. 2013. Enhanced protein stability through minimally-invasive, direct, covalent and site-specific immobilization. *Biotechnology Progress*. 29(1):247-254. (IF 2.0; Cited 38)
33. Shrestha P, *Holland T*, **Bundy BC**. 2012. Streamlined Extract Preparation for Escherichia coli-based Cell-free Protein Synthesis by Sonication or Bead Vortexing. *Biotechniques*. 53(3):163-174. (IF 2.6; Cited 69)
34. *Varner CT*, Smith MT, *Bush DB*, **Bundy BC**. 2012. The Incorporation of the A2 Protein to Produce Novel Qβ Virus-like Particles Using Cell-free Protein Synthesis. *Biotechnology Progress*. 28(2):549-555. (IF 2.0; Cited 32)
35. **Bundy BC**, Swartz JR. 2011. Efficient disulfide bond formation in virus-like particles. *Journal of Biotechnology*. 154(4):230-239. (IF 2.8; Cited 74)
36. **Bundy BC**, Swartz JR. 2010. Site-specific incorporation of p-propargyloxyphenylalanine in a cell-free environment for direct protein-protein click conjugation. *Bioconjugate Chemistry*. 21(2):255-263. (IF 4.5; Cited 153)
37. **Bundy BC**, Swartz JR. 2008. Escherichia coli-based cell-free protein synthesis of virus-like particles. *Biotechnology and Bioengineering*. 100(1):28-37. (IF 4.2; Cited 129)
38. **Bundy BC**, Hales HB. 2008. A streamline reservoir simulator with dynamic gridding. *Journal of Canadian Petroleum Technology*. 47(3):32-38. (IF 1.4; Cited 3)

Submitted Publications Under Peer-Review

1. *Ford H*, Wilding KM, **Bundy BC**. 2019. Applying an Optimization Mindset to Engineering Education: Junior Level Course Project Case Study. *Chemical Engineering Education*. Submitted.

Patents

Issued Patent

1. **Bundy BC**, Swartz JR, Chan W. Encapsidation of Heterologous Entities into Virus-like Particles. **Issued U.S. Patent** No. 8,324,149. Issued 04 December 2012.

Patent Applications

2. **Bundy BC**, Hunt JP, Smith MT, Shakalli M, Wood DW. Cell-free Methods of Detecting Bioactive Ligands. U.S. Patent **Application** No. 15813026. Filed 14 November 2017.
3. **Bundy BC**, Smith MT, Wu JC. Cell-free Synthetic Incorporation of Non-natural Amino Acids into Proteins. International Patent **Application** No. PCT/US14/40078. Filed 29 May 2014.

Provisional Patent Applications

4. **Bundy BC**, Hunt JP. Dependent in Vitro Transcription-Translation Metabolic Networks to Measure Quantity of Activity of Enzymes, Enzyme Inhibitors, or Transcription-translation-dependent Biomolecules. Application No. 62833480. U.S. Provisional Patent Application 12 Apil 2019.
5. **Bundy BC**, Smith MT. Lyophilized Escherichia coli-based Cell-free Systems for Robust, High-density, Long-term Storage. U.S. Provisional Patent Application Filed 20 Dec 2013.
6. **Bundy BC**, Smith MT, Wu JC. A Cell-free Synthetic Biology Approach to Expanding the Language of Biology. U.S. Provisional Patent Application Filed 29 May 2013.

Technical Presentations (157 total, 165 while at BYU)

A complete list is available at http://bundy.byu.edu/publications. Graduate student coauthors directly advised by me are underlined (**137** times) and *undergraduate student coauthors directly advised by me are italicized* (**126** times). A selected list of 20 presentations is given below.

1. *Barnett RJ*, *Robinson H*, Hunt JP, **Bundy BC**. Cell-Free Protein Synthesis as Biosensor. Utah Conference on Undergraduate Research. Utah State University. Logan, UT. Feb 2020.
2. *Crop T*, Zhao EL, **Bundy BC**. Benefits of Lyophilization of Cell Extract in Cell-Free Protein Synthesis. Utah Conference on Undergraduate Research. Utah State University. Logan, UT. Feb 2020.
3. *Mills H*, **Bundy** BC. Increasing Accuracy in Cell-Free Protein Synthesis Reactions. Utah Conference on Undergraduate Research. Utah State University. Logan, UT. Feb 2020.
4. *Nelson JAD*, **Bundy BC**. Engineering Cell-free Protein Synthesis as a Biosensor for Endocrine Disrupting Chemicals. Utah Conference on Undergraduate Research. Utah State University. Logan, UT. Feb 2020.
5. *Robinson H*, *Barnett RJ*, Hunt JP, **Bundy BC**. Applications of CFPS as an Amino Acid Biosensor. Utah Conference on Undergraduate Research. Utah State University. Logan, UT. Feb 2020.
6. *Tucker R*, **Bundy BC**. Scientific Research Accessibility in an Open Access World. Utah Conference on Undergraduate Research. Utah State University. Logan, UT. Feb 2020.
7. *Welton M*, **Bundy BC**. Bubbles in Cell-Free Protein Synthesis Reactions. Utah Conference on Undergraduate Research. Utah State University. Logan, UT. Feb 2020.
8. **Bundy BC**. Taking Control of Your Career Path: Finding Your First Position. Department of Chemical Engineering Graduate Seminar. Provo, UT. Jan 2020. (**Invited**)
9. **Bundy BC**. On-demand Endotoxin-free Production of Protein Cancer Therapeutics from Thermostable Freeze-dried Cell-free Protein Synthesis Reagents. American Institute of Chemical Engineers International Cell-free Systems Conference. Boston, MA. Dec 2019.
10. Hunt JP, Salehi ASM, Yang SO, Smith MT, *Hunt JM*, *Earl CC*, Wood DW, **Bundy BC**. Cell-free Biosensing of Human Hormone Disruptors. American Institute of Chemical Engineers International Cell-free Systems Conference. Boston, MA. Dec 2019. (poster)
11. Hunt JP, Wilding KM, *Barnett RJ*, *Robinson H*, Soltani M, *Cho JE*, **Bundy BC**. Toward Treatment of Acute Lymphoblastic Leukemia with Bacterial Cell Lysates. American Institute

of Chemical Engineers International Cell-free Systems Conference. Boston, MA. Dec 2019. (poster)

12. **Bundy BC**, Wilding KM, Smith AK, *Wilkerson JW*, Bush DB, Knotts TA. Combining Cell-Free Protein Synthesis and Coarse Grain Simulation to Discover Optimal Locations for PEGylation. American Institute of Chemical Engineers International Cell-free Systems Conference. Boston, MA. Dec 2019. (poster)
13. **Bundy BC**. Are Cell-free Systems a Disruptive Innovation in Biotechnology? Distributed and On Demand Production of Advanced Biotherapeutics, Biocatalysts, and Biosensors from Shelf-stable and Cost-effective Reagents. Department of Chemical Engineering Seminar Lecturer. Louisiana State University. Baton Rouge LA. Nov 2019.
    - **Invited Speaker** for Department Seminar Series.
14. **Bundy BC**. Effective Chemical Engineering Job Finding Strategies. Chemical Engineering Senior Class Lecturer. Louisiana State University. Baton Rouge LA. Nov 2019.
    - **Invited Speaker** to Teach Effective Job Finding Strategies to Senior Students as Requested by the Department.
15. **Bundy BC**. Developing Portable, Shelf-Stable, On-Demand Cell-Free Biosystems for the Production of Advanced Biotherapeutics, Biocatalysts, and Biosensors. Intermountain Biological Engineering Conference. Utah State University, Logan, UT. Nov 2019.
16. Hunt JP, **Bundy BC**. Toward Treatment of Acute Lymphoblastic Leukemia with Bacterial Cell Lysates. Intermountain Biological Engineering Conference. Utah State University, Logan, UT. Nov 2019
17. Soltani M, Zhao EL, Hunt JP, **Bundy BC**. Site-specific Unnatural Amino Acid Incorporation of Therapeutic Protein TEM-1 Beta Lactamase. Intermountain Biological Engineering Conference. Utah State University, Logan, UT. Nov 2019. (poster)
18. Zhao EL, **Bundy BC**. Point-of-Care Synthesis of Personalized B-cell Lymphoma Vaccine Proteins. Simmons Center for Cancer Research Center Donor Appreciation Symposium. Provo, UT. Oct 2019. (**Invited** poster)
19. Zhao EL, Wilding KM, **Bundy BC**. Engineering a Shelf-Stable On-Demand Production Platform for Protein Therapeutics. Utah Biomedical Engineering Conference. University of Utah, Salt Lake City, UT. Sep 2019.
20. Hunt JP, **Bundy BC** Biosensing Endocrine Disrupting Chemicals with Intein-mediated Cell-free Protein Synthesis. Utah Biomedical Engineering Conference. University of Utah, Salt Lake City, UT. Sep 2019.
21. Soltani M, Zhao EL, Hunt JP, **Bundy BC**. Site-specific Unnatural Amino Acid Incorporation of Therapeutic Protein TEM-1 Beta Lactamase. Utah Biomedical Engineering Conference. University of Utah, Salt Lake City, UT. Sep 2019. (poster)
22. Zhao EL, **Bundy BC**. Rapid, Point-of-Care Production and Purification of Personalized B-cell Lymphoma Vaccine Proteins. Simmons Center for Cancer Research Symposium. Provo, UT. Aug 2019. (**Invited**)
23. **Bundy BC,** Wilding KM, Zhao EL, Hunt JP, *Barnett J*, *Robinson H, Wilkerson JW*, *Nielsen GH*. Cell-free Systems for On-Demand Production of Next Generation Cancer Therapeutics. Simmons Cancer for Research Center. Provo, UT. May 2019.
    - **Invited Speaker** as Part of the Simmons Center for Cancer Research Summer Seminar Series.
24. Zhao EL, **Bundy BC**. Rational Engineering of Protein Stability for Potential Applications as Detectors in NASA Space Missions. 25th Annual Utah Space Grant Consortium Fellowship Symposium. Brigham Young University. Provo, UT. May 2019 (**Invited** poster)

25. *Nelson JAD, Law S*, Hunt JP, **Bundy BC**. The Role of Autoinduction in Extract Preparation for Cell-Free Protein Synthesis. Intermountain Annual Meeting. American Society of Microbiology. Brigham Young University. Provo, UT. Apr 2019. (poster)
    - **Outstanding Poster Presentation Award** Given to Presentations that Scored in the Top 15% as Judged by a Faculty Panel.
26. *Barnett RJ*, *Robinson H*, Hunt JP, Wilding KM, **Bundy BC**. Asparaginase Cancer Treatment Biosensor. Intermountain Annual Meeting. American Society of Microbiology. Brigham Young University. Provo, UT. Apr 2019. (poster)
27. Hunt JP, *Barnett RJ*, *Robinson H*, **Bundy BC**. Bacterial cell-free protein synthesis biosensors for clinical and environmental applications. Intermountain Annual Meeting. American Society of Microbiology. Brigham Young University. Provo, UT. Apr 2019.
28. *Wilkerson JW*, Wilding KM, Smith AK, Knotts TA, **Bundy BC**. Engineering Better 2nd Generation Therapeutics by Integrating Course Grain Molecule Simulation Integration with Cell-free Protein Synthesis. Research Revolution Conference. Orem, UT. Mar 2019.
    - **Invited Speaker** at a TEDx-like Conference Featuring Revolutionizing Research in Utah.
29. *Nielsen GH*, Hunt JP, **Bundy BC**. Detection of Endocrine Disrupting Chemicals Using a Cell-Free Biosensor. Utah Conference on Undergraduate Research. Weber State University. Ogden, UT. Feb 2019.
30. *Laird C*, **Bundy BC**. Autoinduction Media Optimization. Utah Conference on Undergraduate Research. Weber State University. Ogden, UT. Feb 2019.
31. *Petersen B*, **Bundy BC**. Engineering Software to Recycle Lab Equipment and Reduce Radioactive Waste. Utah Conference on Undergraduate Research. Weber State University. Ogden, UT. Feb 2019.
32. *Law S*, **Bundy BC**. Optimization of Cell-Free Protein Synthesis Reagents for High Production Yields. Utah Conference on Undergraduate Research. Weber State University. Ogden, UT. Feb 2019.
33. **Bundy BC**. Engineering Portable, Shelf-Stable, On-Demand Cell-free Biosystems for the Production of Advanced Biotheraputics, Biocatalysts, and Biosensors. Department of Chemical Engineering Seminar Lecturer. Oklahoma State University. Stillwater, OK. Feb 2019.
    - **Invited Speaker** for Department Seminar Series.
34. **Bundy BC**. Effective Chemical Engineering Job Finding Strategies. Chemical Engineering Senior Class Lecturer. Oklahoma State University. Stillwater, OK. Feb 2019.
    - **Invited Speaker** to Teach Effective Job Finding Strategies to Senior Students as Requested by the Department.
35. **Bundy BC**. Taking Control of Your Career Path: Finding Your First Position. Department of Chemical Engineering Graduate Seminar. Provo, UT. Jan 2019. (**Invited**)
36. **Bundy BC**, Knotts TA, Wilding KM, Smith AK. Integrating Cell-free Protein Expression and Coarse-Grain Molecular Simulation for Rapid Design-Build-Test-Learn Cycles to Discover the Locational Impact of Site-Specific PEGylation. PepTalks: The Protein Science Week. Cambridge Innovation Institute. San Diego, CA. Jan 2019.
    - **Invited Expert Speaker** in the Cell-free Systems Topical Program.
37. **Bundy BC**, *Sarmiento G*. Protein Folding Adventures. Wasatch Elementary. Provo, UT. Dec 2018. (**Invited**)
38. **Bundy BC**, Wilding KM, Hunt JP, *Wilkerson JW*, Yang SO. The Impact of Cell-free Systems on Bioprocessing. ThermoFisher. Logan, UT. Nov 2018.

- **Invited Speaker** in Bioprocessing due to Interest by the Large Conglomerate ThermoFisher.

39. *Wilkerson JW*, Wilding KM, Smith AK, Knotts TA, **Bundy BC**. Building Better Proteins: Integrating Course Grain Molecule Simulation and Cell-free Protein Synthesis to Rapidly Determine the Optimal Location for Polyethylene Glycol Conjugation. American Institute of Chemical Engineers Annual International Meeting. National Undergraduate Research Competition. Pittsburgh, PA. Nov 2018.
    - **1st Place Award Winner at the Premier National Chemical Engineering Undergraduate Student Research Competition**. Involves essentially all Chemical Engineering Programs in the Nation ~190.
40. **Bundy BC**, Yang SO. A Rapid Cell-free Approach to Production of Enzyme Biocatalysts and their Encapsulation in Protective Virus-like Particles. American Institute of Chemical Engineers Annual International Meeting. Pittsburgh, PA. Nov 2018.
    - **Invited Keynote Speaker** of the Advances in Biocatalysis and Biosynthesis Section. In an attempt better include the leaders in the field at the meeting, Division 15 of AIChE has a featured invited speaker who is given double the presentation time and is chosen by the session chairs as one of the leading researchers in the field.
41. **Bundy BC**, Hunt JP, Yang SO, Tang MS, Wood DW. Rapid Biosensing of Endocrine Disruptors with Cell-free Protein Synthesis. American Institute of Chemical Engineers Annual International Meeting. Pittsburgh, PA. Nov 2018.
42. **Bundy BC**, Wilding KM. Removing Endotoxins from E. coli-based Cell-free Systems: Towards Enabling on-Demand Distributed Production of Therapeutics. American Institute of Chemical Engineers Annual International Meeting. Pittsburgh, PA. Nov 2018.
43. Wilding KM, *Ford H*, **Bundy BC**. Applying Engineering Optimization Principles to Engineering Education: Optimization of a Student Project Experience's Design and Implementation. American Institute of Chemical Engineers Annual International Meeting. Pittsburgh, PA. Nov 2018.
44. *Bills W*, Hunt PJ, **Bundy BC**. RAPID Biosensor Engineering. BYU President's Leadership Council Meeting. Provo, UT. Oct 2018.
    - **Invited** Poster Chosen to Represent BYU Undergraduate Research due to Exceptional Research Progress and Impact.
45. Wilding KM, **Bundy BC**. The Locational Impact of Site-Specific PEGylation: Streamlined Screening with Cell-free Protein Expression and Coarse-grain Simulation. Los Alamos National Labs. Los Alamos, NM. Sept 2018. (**Invited**)
46. **Bundy BC**. Rapid, Portable, Low-cost Biosensing with Cell-free Systems. Synthetic Biology for Defense Workshop. Department of Defense. Arlington, VA. Sept 2018.
    - **Invited Featured Expert and Speaker** on Cell-free System by the Department of Defense.
47. Wilding KM, **Bundy BC**. High-throughput Optimization of Site-Specifically PEOzylated Crisantaspase. Simmons Center for Cancer Research Symposium. Provo, UT. Aug 2018. (**Invited**)
48. Long EA, **Bundy BC**. Increasing the Potency of Promising Cancer Therapeutic Onconase Through Site-Specific Protein-Polymerization Optimization. Simmons Center for Cancer Research Symposium. Provo, UT. Aug 2018. (**Invited**)
49. Hunt JP, **Bundy BC.** Introduction to Chemical Engineering and Biochemical Engineering. Utah Valley University. Engineering Prep Program Career Lecturer. Orem, UT. July 2018. (**Invited**)

50. *Wilkerson JW*, Wilding KM, Smith AK, Knotts TA, **Bundy BC**. Building Better Proteins: Integrating Course Grain Molecule Simulation and Cell-free Protein Synthesis to Rapidly Determine the Optimal Location for Polyethylene Glycol Conjugation. American Institute of Chemical Engineers Rocky Mountain Student Regional Conference. Brigham Young University. Provo, UT. Mar 2018.
    - **1st Place Regional Student Oral Paper Presentation Competition Award** Competing with 14 Universities in the Rocky Mountain Region.
51. *Wilkerson JW*, Yang SO, **Bundy BC**. Virus-like Particle Encapsulation Strategies for Enzyme-mediated Biocatalysis. Utah Conference on Undergraduate Research. Southern Utah University. Cedar City, UT. Feb 2018.
52. **Bundy BC**. On-Demand Production of Advanced Biotheraputics, Biocatalysts, and Biosensors through Portable, Shelf-Stable, Cell-free Biosystems. Department of Chemical and Biological Engineering Seminar Lecturer. The University of Alabama. Tuscaloosa, AL. Jan 2018.
    - **Invited Speaker** for Department Seminar Series.
53. **Bundy BC**. Controlling Your Career Path: Finding Your First Position. Department of Chemical Engineering Graduate Seminar. Provo, UT. Jan 2018. (**Invited**)
54. **Bundy BC**, *Ford H*. A Protein Engineering Adventure. Wasatch Elementary. Provo, UT. Jan 2018. (**Invited**)
55. **Bundy BC**, Schinn SM, *Bradley W*, *Groesbeck A*, Wu, JC, Broadbent A. Accessing the Location-Dependent Effects of Unnatural Amino Acids on Protein Expression and Activity with Cell-free Protein Synthesis-Facilitated Rapid Screening. American Institute of Chemical Engineers Annual International Meeting. Minneapolis, MN. October 2017.
56. Wilding KM, **Bundy BC**. Location-Dependent Effect of Post-Translational PEGylation on PEGylation Efficiency and the Activity and Protein Stability of T4-Lysozyme. American Institute of Chemical Engineers Annual International Meeting. Minneapolis, MN. October 2017.
57. **Bundy BC**, Salehi ASM, Tang MS, Yang, SO, Smith MT, *Hunt JT*, Wood DW. Nanobiosensing Chemicals that Target Nuclear Hormone Receptors: A Rapid, Versatile Cell-free Protein Synthesis Approach. American Institute of Chemical Engineers Annual International Meeting. Minneapolis, MN. October 2017.
58. **Bundy BC**, Wilding KM. Going Beyond Demonstrations to "Chose Your Own Adventure" Engineering Experiences for Service-Learning K-12 Outreach Opportunities for 3rd Year Engineering Students and Enhanced Student Engagement for 1st Year Engineering Students. American Institute of Chemical Engineers Annual International Meeting. Minneapolis, MN. October 2017.
59. **Bundy BC.** Producing Protein Therapeutics without Cells. American Institute of Chemical Engineers Annual International Meeting. Minneapolis, MN. October 2017.
    - **Invited Plenary Presenter for the Chemical Engineers in Medicine Topical Area**.
60. *Earl CE*, **Bundy BC.** Polyvinyl Sulfonic Acid: A Low-cost RNase Inhibitor for Enhanced RNA Preservation and Retained Function. American Institute of Chemical Engineers Annual International Meeting. Minneapolis, MN. October 2017.
    - **3rd Place Award Winner at the Premier National Chemical Engineering Undergraduate Student Research Competition.** Involves essentially all Chemical Engineering Programs in the Nation ~190.
61. **Bundy BC**. The Future of Biotechnology. BYU Society of Biological Engineers, Provo, UT. October 2007. (**Invited**)

62. **Bundy BC.** Cell-free Synthetic Biology. BYU Biomedical Engineering Club, Provo UT. October 2017. (**Invited**)
63. Hunt JP, **Bundy BC.** Introduction to Chemical Engineering and Biochemical Engineering. Utah Valley University. Engineering Prep Program Career Lecturer. Orem, UT. July 2017. (**Invited**)
64. **Bundy BC,** Wilding KM, Schinn SM, Salehi ASM, Yang SO, *Bradley WT*, *Earl CC*, *Muhlestein C, Berkheimer SD*, *Bennett AM*, *Hunt JM*. The Impact of Cell-Free Synthetic Biology in Cancer Therapeutics Production and Endocrine Disruptor Detection. Simmons Cancer for Research Center. Provo, UT. May 2017.
    - **Invited Speaker** as Part of the Simmons Center for Cancer Research Summer Seminar Series.
65. *Earl CC*, **Bundy BC.** Polyvinyl Sulfonic Acid: A Low-cost RNase Inhibitor for Enhanced RNA Preservation and Retained Function. American Institute of Chemical Engineers Rocky Mountain Student Regional Conference. University of North Dakota. Grand Forks, ND. April 2017.
    - **1st Place Student Oral Paper Presentation Competition Award** competing with 14 universities in the rocky mountain region.
66. **Bundy BC**. The Emerging Impact of Cell-Free Synthetic Biology. College of Life Science's Graduate Seminar. Provo, UT. Feb 2017.
    - **Invited Speaker** as Part of the College of Life Science's Graduate Seminar Series.
67. *Earl CC*, Salehi ASM, Smith MT, Tang MS, Wood DW, **Bundy BC**. Endocrine Disruptor Detecting Biosensor. Utah Conference on Undergraduate Research. Utah Valley University, Provo, UT. Feb 2017.
68. *Nelsen G,* Salehi ASM, Smith MT, Tang MS, Wood DW, **Bundy BC**. Detection of Harmful Ligands Using a Cell-free Biosensor. Utah Conference on Undergraduate Research. Utah Valley University, Provo, UT. Feb 2017.
69. Hunt JP, Salehi ASM, Smith MT, *Bennett AM*, Williams JB, Pittt WG, **Bundy BC**. Chancer Theraputic Onconase and Lyophilized Cell-free Protein Expression Systems. Biomedical Engineering West Regional Conference. Provo, UT. Jan 2017. (poster)
70. Schinn SM, *Bradley W*, *Groesbeck A*, **Bundy BC**. Rapid in Vitro Screening of Proteins with Non-Natural Amino Acids. American Institute of Chemical Engineers Annual Meeting. San Francisco, CA. Nov 2016. (poster)
71. Salehi ASM, Tang MS, Smith MT, Wood DT, **Bundy BC**. Biosensing Chemicals That Target Nuclear Hormone Receptors: Introducing a Rapid, Versatile Cell-Free Protein Synthesis Approach. American Institute of Chemical Engineers Annual Meeting. San Francisco, CA. Nov 2016.
72. **Bundy BC**. Towards Developing Portable, Shelf-Stable, On-Demand Cell-Free Biosystems for the Production of Biotheraputics & Biocatalysts. Distinguished Lecturer, Weldon School of Biomedical Engineering, Purdue University. West Lafayette, IL. Oct 2016.
    - **Invited Speaker** for Department Seminar Series.
73. **Bundy BC**. The Emerging Impact of Cell-Free Synthetic Biology. William G. Lowrie Department of Chemical and Biomolecular Engineering Seminar Lecturer. The Ohio State University. Columbus, OH. Sept 2016.
    - **Invited Speaker** for Department Seminar Series.
74. **Bundy BC,** Wilding KM, Schinn SM, Salehi SM, Yang SO, *Bradley WT, Earl CC*, *Muhlestein C, Berkheimer SD*, *Bennett AM*, *Hunt JM*, *Werner CJ*, Smith MT, Wu JC. Cell-Free Synthetic Biology. Senator Hatch Science Policy Personnel. Provo, UT. Sept 2016.

75. Schinn SM, **Bundy BC**. Expanding the Genetic Code to Study Cancer-Related G-Protein-Coupled Receptors. Simmons Cancer Research Center. Provo, UT. August 2016. (**Invited**)
76. **Bundy BC.** Engineering is What Can Be: Biochemical Engineering. Utah Valley University. Engineering Prep Program Career Lecturer. Orem, UT. July 2016. (**Invited**)
77. **Bundy BC,** Wilding KM, Schinn SM, Salehi SM, Yang SO, *Bradley WT*, *Earl CC*, *Muhlestein C, Berkheimer SD*, *Bennett AM*, *Hunt JM*, *Werner CJ*, Smith MT, Wu JC. Cell-Free Synthetic Biology: Impact on Cancer Therapeutics and Detecting Cancer Causing Agents. Simmons Center for Cancer Research. Provo, UT. May 2016.
    - **Invited Speaker** as Part of the Simmons Center for Cancer Research Summer Seminar Series.
78. **Bundy BC**, *Bradley WT*. An Engineering Adventure with Proteins. Wasatch Elementary. Provo, UT. May 2016. (**Invited**)
79. Salehi SM, Smith MT, *Bennett AM*, **Bundy BC**. Cell-Free Protein Synthesis: A Dynamic Platform for Rapid Screening and Production of Cytotoxic Cancer Biotherapeutics. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2015.
80. Yang SO, **Bundy BC**. Enzyme Encapsulation Using Cell Free Protein Synthesis. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2015.
81. Schinn SM, *Stanley SK*, *Groesbeck A*, Wilding KM, Wu JC, **Bundy BC**. Rewriting the Language of Biology: Unnatural Amino Acids Incorporation at Sense Codons Using Cell-Free System. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2015.
82. Wilding KM, **Bundy BC**. Rationally Engineering Post-Translational Protein Pegylation for Improved Stability and Function. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2015.
83. Salehi SM, Smith MT, *Hunt JM*, **Bundy BC**. Rapid, High-Throughput Screening of Proteins with Non-Canonical Residues Using Cell-Free Protein Synthesis. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2015.
84. *Muhlestein C*, Smith MT, **Bundy BC**. Streamlined Production of Cell-free Protein Synthesis Reactions Using Auto-induction Media. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2015.
    - **1st Place Student Poster Award at National Competition.**
85. *Earl CC*, Smith MT, **Bundy BC**. RNase Inhibitors for In Vitro Biology. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2015. (poster)
86. *Christian ML*, Smith MT, *Berkheimer SD*, *Werner CJ*, **Bundy BC**. Lyophilized Escherichia Coli-Based Cell-Free Systems For Robust, High-Density, Long-Term Storage. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2015. (poster)
87. Broadbent A, **Bundy BC**. Using Sacrificial DNA to Improve LET-Based CFPS Protein Yields. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2015.
88. **Bundy BC**. Enhanced Protein Stability Through Site-Directed Covalent Immobilization. Biostability Seminar. US Army Natick Soldier Research, Development and Engineering Center. Natick, MA. Sep 2015.
    - **Invited Featured Expert Speaker** on Protein Immobilization by US Army.

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89. **Bundy BC**. Biochemical Engineering: Engineering is What Can Be. Pre-freshman Engineering Program. Utah Valley University. Orem, UT. Jul 2015. (**Invited**)

90. **Bundy BC**. Cell-free Synthetic Biology Meets Terraforming. DARPA Biocomplexity Seminar. Arlington, VA. June 2015.
    - **Invited Expert Speaker** on Cell-free Synthetic Biology by DARPA.
91. Wilding KM, **Bundy BC**. Rational Engineering of Protein Stability for Potential Applications as Detectors in NASA Space Missions. 21st Annual Utah Space Grant Consortium Fellowship Symposium. Salt Lake City, UT. May 2015 (**Invited**)
92. *Earl CC*, **Bundy BC**. In vitro Cell-free Synthetic Biology Techniques for Optimizing Protein Yields. Utah Conference on Undergraduate Research. Dixie State University, St. George, UT. Feb 2015.
93. *Ford H*, **Bundy BC**. Economical Rapid Production of Therapeutic Proteins using Cell-free Protein Synthesis. Utah Conference on Undergraduate Research. Dixie State University, St. George, UT. Feb 2015.
94. *Stanley SK*, **Bundy BC**. Expanding the Genetic Code through Simultaneous Insertion of Unnatural Amino Acids. Utah Conference on Undergraduate Research. Dixie State University, St. George, UT. Feb 2015.
95. *Linney B*, **Bundy BC**. Optimization of the pET9a Vector. Utah Conference on Undergraduate Research. Dixie State University, St. George, UT. Feb 2015.
96. **Bundy BC**. Engineering Cell-free Synthetic Biology. Chemistry and Biochemistry Seminar. Georgia Institute of Technology. Atlanta, GA. Feb 2015.
    - **Invited Speaker** for Department Seminar Series.
97. **Bundy BC**, Smith MT, *Hunt JM*, Schinn SM, Salehi SM, Broadbent A. Reengineering the genetic code to Expand the Language of Biology using a Cell-free Synthetic Biology Approach. 5th International Conference on Biomolecular Engineering. Austin, TX. Jan 2015. (poster)
98. **Bundy BC**. Rewriting the Genetic Code for Incorporation of Multiple Unnatural Amino Acids. 5th International Conference on Biomolecular Engineering. Austin, TX. Jan 2015. (rapid fire presentation)
99. **Bundy BC**. Going Beyond Demonstrations to “Chose Your Own Adventure” Engineering Experiences. American Institute of Chemical Engineers Annual Meeting. Atlanta, GA. Nov 2014.
100. Smith MT, *Berkheimer SD*, *Werner CJ*, **Bundy BC**. Lyophilized Cell-free Systems for Robust, Modular Protein Expression. American Institute of Chemical Engineers Annual Meeting. Atlanta, GA. Nov 2014. (poster)
101. Wu JC, *Hutchings CH*, *Lindsay MJ*, *Werner CJ*, **Bundy BC**. The Impact of Protein Residue-explicit Covalent Immobilization for Stability Enhancement (PRECISE) on Enzyme Biocatalysis. American Institute of Chemical Engineers Annual Meeting. Atlanta, GA. Nov 2014.
102. Smith MT, *Hunt JM*, **Bundy BC**. Rewriting the Proteomic Alphabet in Cell-free Systems. American Institute of Chemical Engineers Annual Meeting. Atlanta, GA. Nov 2014.
103. **Bundy BC.** Development of Technology for an Expanded Genetic Code. BioUtah: Utah Life Science Summit. Salt Lake City, UT. Nov 2014 (poster)
104. *Bennet AM,* Smith MT, **Bundy BC**. Engineering Novel Vaccines for Foot-and-Mouth Disease. Emerging Ideas in Biomedical Research. Provo, UT. Oct 2014. (poster)
105. *Lindsay MJ*, Wu JC, **Bundy BC**. Analyzing Protein Activity and Stability Using a High-Throughput Linear Expression Template System. Emerging Ideas in Biomedical Research. Provo, UT. Oct 2014. (poster)

106. **Bundy BC.** Advances in Cell-free Synthetic Biology based Expansion of the Genetic code. DARPA YFA Review. Arlington, VA. Oct 2014 (poster) (**Invited**)

107. **Bundy BC**. Biochemical Engineering: Engineering is What Can Be. Pre-freshman Engineering Program. Utah Valley University. Orem, UT. Jul 2014. (**Invited**)

108. **Bundy BC**. Advances in Expanding the Language of Biology with Cell-free Synthetic Biology. DARPA Living Foundries Program Review. Denver, CO. Jun 2014. (**Invited**)

109. Smith MT, *Berkheimer SD*, *Werner CJ*, **Bundy BC**. Cell-free Technologies: Protein Expression, Synthetic Biology, and Nanotechnology. Roche Diagnostics, Protein Engineering Division, Penzberg, Germany. Feb 2014.
    - **Invited Speaker** due to Interest by the Large Pharmaceutical Conglomerate Roche.

110. *Hunt JM*, Shrestha P, Smith MT, **Bundy BC**. Cell-free Unnatural Amino Acid-Incorporation using Linear Expression Templates. Utah Conference on Undergraduate Research. Brigham Young University. Feb 2014.

111. *Bennett AM*, Smith MT, **Bundy BC**. Foot-and-Mouth Disease Vaccine: Technical and Political Challenges to Vaccine-based Eradication. Utah Conference on Undergraduate Research. Brigham Young University. Feb 2014.

112. *Lindsay M*, Wu JC, **Bundy BC**. A High-throughput Linear Expression Template System for Analyzing Protein Activity and Stability. Utah Conference on Undergraduate Research. Brigham Young University. Feb 2014.

113. *Hutchings C*, Wu JC, **Bundy BC**. Immobilizing Biocatalysts onto Surfaces. Utah Conference on Undergraduate Research. Brigham Young University. Feb 2014.

114. **Bundy BC**. A Golden Age for Cell-free Synthetic Biology. Cell-free Protein Synthesis 4th Annual International Status Seminar. Fraunhofer Institute for Biomedical Engineering. Postdam, Germany. Jan 2014.
    - **Invited Plenary Lecturer at the International Conference in Germany.**

115. Smith T, **Bundy BC**. Freeze-dried Escherichia coli-based Cell-free Systems – Just Add Water. Cell-free Protein Synthesis 4th Annual International Status Seminar. Fraunhofer Institute for Biomedical Engineering. Postdam, Germany. Jan 2014. (poster) (**Invited**)

116. **Bundy BC**. A Cell-free Synthetic Biology Approach to Expand the Language of Biology. DARPA Living Foundries Program Review. La Joalla, CA. Jan 2014. (**Invited**)

117. **Bundy BC**. Cell-free Living Foundry. DARPA Living Foundries Program Review. La Joalla, CA. Jan 2014. (poster) (**Invited)**

118. **Bundy BC**. Building the Community through Service Learning: Assessing the Effect of Service-Learning Group Projects on Intrinsic Motivation, Depth of Understanding, and Leadership Development during a Junior-Level Core Chemical Engineering Class. American Institute of Chemical Engineers Annual Meeting. San Francisco, CA. Nov 2013.

119. Smith MT, **Bundy BC**. Engineering Virus-Based Nanoparticles as Adjustable Platforms for High-Density Site-Directed Decoration. American Institute of Chemical Engineers Annual Meeting. San Francisco, CA. Nov 2013.

120. Wu JC, Smith MT, *Werner C*, **Bundy BC**. Evaluating the Effect of Attachment Orientation On the Activity and Stability of Immobilized Enzymes. American Institute of Chemical Engineers Annual Meeting. San Francisco, CA. Nov 2013.

121. Smith MT, *Hawes AK*, *Rainsdon JM*, Shrestha P, **Bundy BC**. High-Yielding Escherichia Coli-Based Cell-Free Protein Synthesis of Commercially Relevant Proteins. American Institute of Chemical Engineers Annual Meeting. San Francisco, CA. Nov 2013.

122. **Bundy BC**. Biocatalysis. United States Air Force Academy. Colorado Springs, CO. Oct 2013. (**Invited**)
123. **Bundy BC**. Cell-free Synthetic Biology. United States Air Force Academy. Colorado Springs, CO. Oct 2013. (**Invited**)
124. Smith MT, **Bundy BC**. Developing Virus-based Nanoparticles as Potent Diagnostic Tools. 19th Annual Utah Space Grant Consortium Fellowship Symposium. Salt Lake City, UT. May 2013.
125. *Rainsdon JM*, Smith MT, *Hawes AK*, Shrestha P, **Bundy BC**. A Cell-free Engineered Approach to Economical Synthetic Biology. Pacific Northwest AIChE Regional Conference. Montana State University, MT. Apr 2013.
126. **Bundy BC**, Wu JC, Smith MT, *Varner CT*. Enzyme Biocatalysis Orientation Control During Immobilization by Unnatural Amino Acid Incorporation. American Institute of Chemical Engineers Annual Meeting. Pittsburgh, PA. Oct 2012.
127. Smith MT, *Varner CT*, *Burnham MA*, *Rainsdon JM*, **Bundy BC**. Developing Novel Virus-Like Particles As Tunable, Targetable Reporter Platforms. American Institute of Chemical Engineers Annual Meeting. Pittsburgh, PA. Oct 2012.
128. Shrestha P, *Holland T,* **Bundy BC**. Economical Cell Lysis Technique Optimized for Cell-free Protein Synthesis. Emerging Ideas in Biomedical Research. Provo, UT. Oct 2012. (poster)
129. Wu JC, Smith MT, *Werner C, Fredline G, Mayberry T, Winegar J,* **Bundy BC**. Optimized Biocatalysts through Enzyme Immobilization. Emerging Ideas in Biomedical Research. Provo, UT. Oct 2012. (poster)
130. *Winegar J*, Smith MT, *Varner CT*, **Bundy BC**. Developing Engineered Virus Nanoparticles for Tunable, Targetable Platforms. Emerging Ideas in Biomedical Research. Provo, UT. Oct 2012. (poster)
131. **Bundy BC**. Widening Student Education Beyond the Text: Where did the equations come from and how will you find them if you sell back your book. American Society for Engineering Education 2012 Chemical Engineering Summer School. Orono, ME. Jul 2012. (poster)
132. *Holland T,* Shrestha P, **Bundy BC**. Economical Cell Lysis Techniques Optimized for Cell-free Protein Synthesis. National Conference of Undergraduate Research. Ogden, UT. Mar 2012.
133. *Bush DB*, *Herdegen SS*, *Nickolaisen J*, *Varner CT*, *Werner C*, Wu JC, **Bundy BC**. Enhancing in vitro Production of Proteins Utilizing Linear DNA Templates. National Conference of Undergraduate Research. Ogden, UT. Mar 2012.
134. *Chidsey P*, Smith, MT, Wu JC, **Bundy BC**. Enzyme Immobilization for Enzyme Catalyzed Reaction Engineering. National Conference of Undergraduate Research. Ogden, UT. Mar 2012.
135. **Bundy BC**, Smith MT, *Varner CT*. A Cell-Free Approach to Optimized Production and Self-Assembly of Novel Monodisperse Virus-Based Nanoparticles. American Institute of Chemical Engineers Annual Meeting. Minneapolis, MN. Oct 2011.
136. **Bundy BC**. Encouraging Students to Critically Think About the Origins and Assumptions Behind Heat and Mass Transfer Convection Coefficient Correlations Through a Simple Demonstration. American Institute of Chemical Engineers Annual Meeting. Minneapolis, MN. Oct 2011.
137. Smith MT, *Varner CT*, **Bundy BC**. Cell-free Synthesis of a Novel Virus-like Particle for Future Bioimaging Applications. Annual Utah Biomedical Engineering Conference. Univ. of Utah, UT. Sept 2011. (poster)

138. Wu JC, **Bundy BC**. Reaction Condition Optimization of the “Click Reaction” in a Crude Cell Lysate. Annual Utah Biomedical Engineering Conference. Univ. of Utah, UT. Sept 2011. (poster)
139. Shrestha P, **Bundy BC**. Cost Effective Incorporation of Unnatural Amino acid in a Cell-Free Protein Synthesis System. Annual Utah Biomedical Engineering Conference. Univ. of Utah, UT. Sept 2011. (poster)
140. *Varner CT*, Smith MT, **Bundy BC**. Cell-free Protein Synthesis Based Production of the Qbeta Virus-like Particle Incorporating the A2 Protein. Annual Utah Biomedical Engineering Conference. Univ. of Utah, UT. Sept 2011. (poster)
141. *Hawes AK, Varner CT, Swenson JM*, **Bundy BC**. Eukaryotic Post-translational Modification in Prokaryotic-based Cell-free Protein Synthesis. Utah Conference on Undergraduate Research. Weber State Univ., UT. Feb 2011.
142. *Varner CT, Bush DB,* Smith MT, **Bundy BC**. Evaluation of Inserting a Single A2 protein into Virus-Like Particles of the Q-beta Bacteriophage. Utah Conference on Undergraduate Research. Weber State Univ., UT. Feb 2011.
143. **Bundy BC**, Swartz JR. Production of Robust Virus-Like Particles via Disulfide-Bond Cross-Linking. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2010.
144. **Bundy BC**, Swartz JR. Stability and Functionality of Site-Specific Protein-Protein Conjugation Products formed with “Click” Chemistry. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2010.
145. *Bush DB, Varner CT, Barfuss DC, Swenson JM,* **Bundy BC**. Advances Toward the Incorporation of a Single Unique Protein Into Virus-Like Particles. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2010. (poster)
146. *Katz A, Swenson JM, Bush DB,* **Bundy BC**. Evaluation of Myristoylation for Post-Translational Modification in a Coupled Transcription/Translation Protein Synthesis Environment. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2010. (poster)
147. Wu JC, *Varner CT*, **Bundy BC**. Optimization of the Fluorogenic Copper(I)-Catalyzed 1,3-Dipolar Cycloaddition ("Click") Reaction in a Crude Cell Lysate. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2010. (poster)
148. **Bundy BC**. “Clicking” Proteins Together Covalently and Site-Specifically with Unnatural Amino Acids. Microbiology and Molecular Biology Department Graduate Student Seminar, Brigham Young University. Provo, UT. Oct 2010. **(Invited)**
149. **Bundy BC**. Site-specific Post-translational Modification of Protein Macromolecular Complexes. ChEn 519: Biochemical Engineering, Brigham Young University. Apr 2010. **(Invited)**
150. **Bundy BC**. Direct Protein-Protein Conjugation via Unnatural Amino Acids Incorporated with Cell-free Protein Synthesis. Bacterial Super-Group Meeting, Brigham Young University. Provo, UT. Feb 2010. **(Invited)**
151. **Bundy BC**, Swartz JR. A Cell-Free Approach to Engineering the Site-Specific Incorporation of Unnatural Amino Acids for Direct Protein-Protein Conjugation. American Institute of Chemical Engineers Annual Meeting. Nashville, TN. Nov 2009.
152. **Bundy BC**. The Incorporation of Non-Canonical Amino Acids into Macromolecular Protein Complexes for Direct Protein Conjugation. Biochemical Engineering Club, Brigham Young University. Provo, UT. Nov 2009. **(Invited)**

153. **Bundy BC**. Production and Site-Specific Post-Translational Modification of Virus-like Particles. Dept. of Chemical Engineering Graduate Student Seminar, Brigham Young University. Provo, UT. Oct 2009. **(Invited)**

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154. **Bundy BC**, Swartz JR. Providing New Freedom for Engineering Efficient Biological Systems. BioEng 390: Introduction to Bioengineering Research, Stanford University. Jan 2009. **(Invited)**
155. **Bundy BC**. The Science Behind Protein Production: Transcription, Translation, and Macromolecular Assemblies. ChE 150: Biochemical Engineering, Stanford University. Nov 2008. **(Invited)**
156. **Bundy BC**. A Cell-free Approach to Virus-like Particle Production and Modification. Dept. of Chemical Engineering Colloquium, Stanford University. Stanford, CA. Oct 2008. **(Invited)**
157. **Bundy BC**. Virus-like Particles: A Cell-free Production Approach. Dept. of Chemical Engineering Graduate Student Seminar, Brigham Young University. Provo, UT. Mar 2008. **(Invited)**
158. **Bundy BC**, Swartz JR. Cell-Free Protein Synthesis and Self-Assembly of Complex Virus-Like Particles. American Institute of Chemical Engineers Annual Meeting. Salt Lake City, UT. Nov 2007.
159. **Bundy BC**. Cell-free Synthesis of Virus-like Particles. BioEng 393: Bioengineering Seminar, Stanford University. Nov 2007. **(Invited)**
160. **Bundy BC**, Swartz JR. High Yielding Cell-free Synthesis of Virus-like Particles. Stanford Engineering Fair. Stanford, CA. Jan 2007. (poster)
161. **Bundy BC**, Goerke AR, Swartz JR. E. Coli-Based Cell-Free Protein Synthesis of Virus-like Particles. American Institute of Chemical Engineers Annual Meeting. San Francisco, CA. Nov 2006.
162. **Bundy BC**, Swartz JR. Virus-like Particle Production Utilizing Prokaryotic Cell-free Protein Synthesis. American Chemical Society 232nd National Meeting. San Francisco, CA. Sep 2006. (poster)
163. **Bundy BC**, Hales HB. A Streamline Reservoir Simulator with Dynamic Gridding. Canadian International Petroleum Conference. Calgary, Canada. Jun 2004.
164. **Bundy BC**, Hales HB. Streamline Reservoir Simulation. Rocky Mountain AIChE Regional Conference. Provo, UT. Mar 2004.
165. **Bundy BC**, Harb JN. High Aspect Ratio Nanostructures. Micron Technology Student Symposium. Boise, ID. Jun 2003.

<u>Extramural Research Grants</u> ($1.5 Million)

2020 NASA UNSGC K-12 Educational Award: Role: Co-Principal Investigator. Award Amount: **$5,000**. Funding Period: 5/2020-5/2021.

2017 National Science Foundation. Designing Unnatural-Amino-Acid-Enabled Second-Generation Biomaterials. Role: Co-Principal Investigator. Award Amount: **$389,990**. Funding Period: 09/2017-08/2021

2016 National Science Foundation REU Supplement. Award Amount: **$7,000**. Funding Period: 12/2016-07/2018

2015 National Science Foundation REU Supplement. Award Amount: **$6,000**. Funding Period: 12/2015-07/2018

2014 National Science Foundation REU Supplement. Award Amount: **$6,000**. Funding Period: 08/2014-07/2018

2013 DARPA Young Faculty Award Grant. A Cell-free Synthetic Biology Approach to Expanding the Language of Biology. Role: Principal Investigator (Only PI). Award Amount: **$498,885**. Funding Period: 08/2013-07/2015
2013 National Science Foundation CAREER Award Grant. Controlled Enzyme Biocatalyst Immobilization. Role: Principal Investigator (Only PI).Award Amount: **$400,717**. Funding Period: 07/2013-07/2019
2013 National Pork Board Grant. A Cell-free Synthesis Approach for the Rapid and Cost-Effective Production of Foot and Mouth Disease Vaccines. Role: Principal Investigator (Only PI). Award Amount: **$75,000**. Funding Period: 07/2013-04/2015
2012 NASA Travel Award Grant. Engineering Controlled Covalent Protein Immobilization for Lab-On-A-Chip Technology. Role: Principal Investigator (Only PI). Award Amount: **$2,500**. Funding Period: 11/2012
2011 NASA Young Faculty Training Award Grant. Engineering Controlled Covalent Protein Immobilization for Planetary Exploration with Next Generation Lab-On-A-Chip Technology. Role: Principal Investigator (Only PI). Award Amount: **$25,000**. Funding Period: 07/2011-12/2012
2011 National Science Foundation EAGER Award Grant. Biocatalyst Orientation Control During Immobilization. Role: Principal Investigator (Only PI). Award Amount: **$70,571**. Funding Period: 06/2011-05/2012
2010 NASA Graduate Student Training Grant. Development of a Robust Site-specific Protein-Surface Covalent Conjugation Technique for the Development of Next Generation Protein Microarrays Chips. Role: Principal Investigator (Only PI). Award Amount: **$9,720**. Funding Period: 06/2010-06/2011

Extramural Mentored Graduate Student Awards/Grants ($162K)

2019 NASA Graduate Fellowship. NASA Rocky Mountain Space Consortium. Zhao E (Applicant), Bundy BC (Faculty Advisor/Mentor). $6,000. 9/2019-5/2020.
2018 NASA Graduate Fellowship. NASA Rocky Mountain Space Consortium. Long E (Applicant), Bundy BC (Faculty Advisor/Mentor). $5,000. 9/2018-5/2019.
2015 Graduate Research Fellowship. National Science Foundation. Wilding KM (Applicant), Bundy BC (Faculty Advisor/Mentor). $138,000. 9/2015-8/2018.
2014 NASA Graduate Fellowship. NASA Rocky Mountain Space Consortium. Wilding KM (Applicant), Bundy BC (Faculty Advisor/Mentor). $7,000. 9/2014-5/2015.
2013 NASA Graduate Fellowship. NASA Rocky Mountain Space Consortium. Smith MT (Applicant), Bundy BC (Faculty Advisor/Mentor). $6,000. 9/2012-5/2013.

Intramural Mentored Graduate/Undergraduate Student Awards/Grants ($148K)

2020 Simmons Center for Cancer Research Fellowship. Zhao EL (Applicant), Bundy BC (Faculty Advisor/Mentor). $8,500. 5/2020-8/2020.
2020 Simmons Center for Cancer Research Fellowship. Hunt JP (Applicant), Bundy BC (Faculty Advisor/Mentor). $8,500. 5/2020-8/2020.
2020 Simmons Center for Cancer Research Fellowship. Nelson JAD (Applicant), Bundy BC (Faculty Advisor/Mentor). $8,500. 5/2020-8/2020.
2020 Simmons Center for Cancer Research Fellowship. Ebbert L (Applicant), Bundy BC (Faculty Advisor/Mentor). $8,500. 5/2020-8/2020.
2019 Simmons Center for Cancer Research Fellowship. Zhao EL (Applicant), Bundy BC (Faculty Advisor/Mentor). $8,000. 5/2019-8/2019.
2018 Don B. Olson Research Fellowship. *Nielsen G* (Applicant), Bundy BC (Faculty Advisor/Mentor). ~$15,000. 9/2018-4/2019.
2018 Simmons Center for Cancer Research Fellowship. Long EA (Applicant), Bundy BC (Faculty Advisor/Mentor). $8,000. 5/2018-8/2018.

2018 Simmons Center for Cancer Research Fellowship. Wilding KM (Applicant), Bundy BC (Faculty Advisor/Mentor). $8,000. 5/2018-8/2018.
2016 Simmons Cancer Research Fellowship. Schinn SM (Applicant), Bundy BC (Faculty Advisor/Mentor). $7,500. 5/2016-8/2016.
2016 Don B. Olson Research Fellowship. Christian ML (Applicant), Bundy BC (Faculty Advisor/Mentor). ~$15,000. 9/2015-4/2016.
2013 Don B. Olson Research Fellowship. Katz A (Applicant), Bundy BC (Faculty Advisor/Mentor). ~$15,000. 9/2012-4/2013.
2012-2019 Women Mentoring Research Fellowships. Law S, Barnett J, Peterson A, Frei M, Groesbeck A, Greer L, Tsai M, Bradford C (Individual Applicants). Bundy BC (Faculty Advisor/Mentor). $12,000. 2010-2018
2010-2018 ORCA Undergraduate Research Grants. Bush DB, Holland T, Katz A, Burnham M, Varner Ct, Herdegen S, Bennett A, Hunt JM, Stanley S, Bradley W, Earl CC, Wilkerson J, Bills W, Long EA (Individual Applicants). Bundy BC (Faculty Advisor/Mentor). $25,200. 2010-2018

Intramural Research Grants ($186K)
2019 Chemical Engineering Research Professorship, College of Engineering, BYU
2019 Seed Funding, College of Engineering and Technology, BYU
2015 Research Initiation Grant, College of Engineering and Technology, BYU
2013 Mentored Graduate Teaching Grant, LDS Foundation/Graduate Studies, BYU
2012 Mentored Graduate Teaching Grant, LDS Foundation/Graduate Studies, BYU
2012 Mentored Research Environment Grant, Brigham Young University
2011 Mentored Graduate Teaching Grant, LDS Foundation/Graduate Studies, BYU
2010 Mentored Research Environment Grant, Brigham Young University
2010 Mentored Graduate Teaching Grant, LDS Foundation/Graduate Studies, BYU
2009 Research Initiation Grant, College of Engineering and Technology, BYU

Teaching Evaluations
The combined student evaluations for the 58 classes/sections for 9 different courses that I have taught at BYU are listed below with 5 being the highest possible ranking. Also included are the average student evaluation for all courses in the College of Engineering and Technology (next to my score and separated by /). Scores given on the prior 8-point scale were normalized to 5.

	Student #	GPA	Classes	Student Evaluations Score
2009-14 Assistant Prof.	**1315**	**3.18**	**32**	**4.6** / 4.1
2015-19 Associate Prof.	**1433**	**3.29**	**32**	**4.8** / 4.3
2009-19 Combined	**2748**	**3.25**	**64**	**4.7** / 4.2

Mentoring Research Activities
Post-doctoral Researcher (1):
Mark Smith Ph.D. 2014-2015, Completed

Graduate Students (11):
Emily Long Zhao Ph.D. 2018-Pres, Qualifier Exam Passed
Mehran Soltani Ph.D. 2017-Pres, Qualifier Exam Passed
Porter Hunt Ph.D. 2016-Pres, Qualifier Exam Passed
Kristen Wilding Ph.D. 2014-2018, Graduated
Seung-Ook Yang Ph.D. 2014-2017, Graduated
Matt Schinn Ph.D. 2013-2017, Graduated
Amin Salehi Ph.D. 2013-2017, Graduated

Andrew Broadbent	M.S.	2013-2016, Graduated
Mark Smith	Ph.D.	2010-2014, Graduated
Jeff Wu	Ph.D.	2010-2014, Graduated
Prashanta Shrestha	M.S.	2010-2012, Graduated

Undergraduate Students (140):

Key: **[N] National Undergraduate Research Award/Fellowship (8),**
[#] Author on a Peer-reviewed Journal Article (52),
[†] BYU Undergraduate Research Award Recipient (23),
[‡] Major other than Chemical Engineering (6)

Daniel Abramson
Wade Anderson
Abner Apsley
Kelly Arrington
Greg Atkinson
Dan Barfuss
[#†]Jordan Barnett
[####†]Anthony Bennett
[#]Scott Berkheimer
Sarah Bevan
[†]Whitney Bills
[†]Matt Burnham
[#†]Derek Bush
[##]William Bradley
[†]Claire Bradford
Andrew Broadbent
Curtis Campbell
Adam Carr
Meagan Carroll
[#]William Carver
Arthur Castleton
Paul Chidsey
[#†]M Lance Christian
[#]Jae Cho
Nick Cooper
Justin Crandall
Andrea Cutler
Sarah Daines
[#]Brady Davis
[‡]Desi Demille
[N#####†]Conner Earl
Taylor Ellsworth
Brindon Elton
Aaron Escamilla
Garrison Fredline
[#†]Madison Frei
[#]Hayley Ford
Ranon Fuller
Tyler Crop
[†] Mia Sedgwick
Tyler Free

[##]Parker Funk
Anthony Gillespie
[†]Lauren Greer
[#†]Ashtyn Groesbeck
[‡]Jennifer Handy
[†‡]Savannah Herdegen
Tyler Hess
An Ho
[#†]Troy Holland
[####†]Jeremy Hunt
[#]Porter Hunt
[#]Chris Hutchings
[#]Matt Jones
[N##††]Anna Katz/Hawes
Joshua Kim
Kasja Kolste
Garrett Kraus
Colton Laird
Garrett Laugenour
[†]Sydney Law
Travis Lefrandt
Ross Lee
Yunju Lee
Caleb Lind
[#]Mark Lindsay
[‡]Brook Linney
[#]Emily Long
Jake Mathews
Mark Matthews
Natalie Matthews
Tyler Mayberry
[N##†]Christina Muhlestein
Jacob Neeley
[†N##]Andrew Nelson
Stella Nickerson
[‡]Jamie Nickolaisen
[N##†]Gregory Nielsen
Eriene Oh
Ryan Tucker
[†] Meagan Welton
[†] Heather Mills

[‡]Kirk Oler
Troy Olgivie
Hailey Olson
Hyrum Pech
[†]Amanda Peterson
Brian Peterson
[‡]Chad Pitcher
Gabriel Poulson
[#]Jay Rainsdon
Annie Reed
Miranda Ripperger
Michael Roberts
[#]Hannah Robinson
Brandon Rodriguez
Michael Ruesch
G3 Sarmiento
Mark Schvaneveldt
Katelyn Simonson
Mark Smith
Dan Snyder
[#†]Steven Stanley
Brian Stimpson
Blake Swapp
[#]Rebecca Swenson
Julie Swenson
Jon Terry
[†]Melinda Tsai
[N##†]Chad Varner
Sharyn Wada
Steven Ward
[##]Christopher Werner
[N#†]Kristen Wilding
Paul Wilding
[N###†]Joshua Wilkerson
Jamon Winegar
Jordan Winegar
Zac Zaccardi
Ruoqing Zhu
Issac Foutz
[†] Landon Ebertt
Jaiden Searle

Hyrum Petz	Andrew Cohen
Kamea Wheeler	Nathan Taylor

Extramural Citizenship Activities

2019-Pres	Organizing Committee, Cell-free Systems Conference Sponsored by the Society of Biological Engineering
2018-Pres	Programing Chair, Bioengineering Division (Organize the programing for 60+ sessions that include 600+ presentations)
2016-2018	Area Chair, Bioengineering Division: AIChE Division 15C (Organize 25+ sessions for 300+ presentations, Invite 50+ session chairs, Oversee peer-review, Vote on AIChE awards, Advertise sessions, Invite 25+ featured speakers)
2017-Pres	Editorial Board Member, New Biotechnology
2016-Pres	Editorial Board Member, Biotechnology Progress
2016-Pres	AIChE Division 15C Executive Committee Member
2014-Pres	Provo City Science Palooza Bioengineering Demo (**3,000+** K-12 Students)
2014-Pres	Provost, Wasatch Elementary Science Fair Judge
2014-Pres	NASA Rocky Mountain Space Grant Reviewer
2014-Pres	UVU PREP Invited Guest “Career Awareness” Lecturer (**500+** K-12 Students)
2011-Pres	BYU Engineering Week Hands-on Engineering Demos (**8,000+** K-12 Students)
2011-Pres	Boy Scouts of America Scout Master and Merit Badge Councilor
2011-Pres	Wasatch Elementary Active Learning Enzyme Demonstration Presenter
2010-Pres	AIChE Annual International Meeting Session Chair (**20+** sessions)
2010-Pres	Journal Article Reviewer for 35+ Scientific Journals
2010-Pres	NSF Grant Proposal Reviewer for **5+** Separate Panels
2020	NASA Earth Science Fellowship Review Panelist
2017	ASEE Summer School for New Professors – Invited Presenter at NC State
2017	Chemical Engineering Textbook Reviewer
2013-2017	BYU Radio Guest Expert on Biocatalysis and Synthetic Biology
2016	NIH BCMB Study Section Member (Proposal Reviewer)
2016	US DOE BES Proposal Reviewer
2016	Co-Area Chair, AIChE Division 15C: Bioengineering Division
2015	Invited Session Chair, International Conference on Biomolecular Engineering
2015	NIH COBRE Grant Proposal Reviewer
2015	Co-Area Chair Elect, AIChE Division 15C: Bioengineering Division
2015	German Research Foundation Proposal Reviewer
2014	University of Queensland Australia External Ph.D. Thesis Reviewer
2014	Advancement in Academic Rank External Reviewer
2012	ASEE Chemical Engineering New Professor Summer School

Intramural Citizenship Activities

2017-Pres	Chair, University Radiation and Laser Safety Committee
2016-Pres	BYU Faith and Learning Fellow (represent Engineering and Technology)
2014-Pres	BYU Simmons Center for Cancer Research Faculty Member
2014-Pres	BYU SCCR Fellowship Reviewer
2013-Pres	Advisor of BYU Chapter of the Society of Biological Engineers
2013-Pres	Chair, Chemical Engineering Department Public Relations Committee
2013-Pres	Chemical Engineering Department Executive Committee Member
2009-Pres	BYU ORCA Grant Reviewer
2009-Pres	BYU Graduate Studies Fellowship Reviewer
2009-Pres	600+ Letters of Recommendations Submitted
2019	University Experiential Learning Focus Group

2017-2018	Engineering College Building Graphics Committee Member
2009-2018	Don B. Olsen Scholarship/Mentorship Selection Committee Member
2016-2017	Department Faculty Search Committee Member
2015-2017	Engineering College Teaching and Learning Committee Member/Specialist
2017	BYU Faith and Learning Seminar Series Co-organizer/Participant
2013	College Freshmen Mentoring Training Panel Member
2011-2012	Chemical Engineering Department Public Relations Committee Member
2010-2011	BYU Center for Teaching and Learning Consultant
2009-2010	Chemical Engineering Department Graduate Committee Member

Journal Article Reviewer (100+ reviews for 36 journals)

ACS Synthetic Biology
AIChE Journal
Analytical Chemistry
Analytical and Bioanalytical Chemistry
Applied Microbiology and Biotechnology
Bioconjugate Chemistry
Biochemical Engineering Journal
Biotechniques
Biotechnology Advances
Biotechnology & Bioengineering
Biotechnology Journal
Biotechnology Progress
ChemCommunications
Chemical Science
Colloid and Polymer Science
Current Opinion in Biotechnology
Engineering in Life Sciences
FEBS Letters
Industrial & Eng. Chemistry Research
Journal of Biotechnology
Journal of the Royal Society Interface
Methods and Protocols
Molecular Pharmaceutics
Nature Communications
Nature Biomedical Engineering
New Biotechnology
Nucleic Acids Research
PLoS One
Protein Engineering, Design and Selection
Protein Science
Science
Scientific Reports
Synthetic Biology (Oxford)
Systems and Synthetic Biology
Trends in Biotechnology
Vaccine