

Benjamin T. Bikman, Ph.D.

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EDUCATION

Postdoctoral Fellow, Cardiovascular and Metabolic Diseases, Duke-NUS Graduate Medical School, Singapore, 2011
Ph.D., Bioenergetics, East Carolina University, Greenville, North Carolina, 2008
M.Sc., Exercise Physiology, Brigham Young University, Provo, Utah, 2005
B.Sc., Exercise Science, Brigham Young University, Provo, Utah, 2003

PROFESSIONAL EXPERIENCE

Brigham Young University, Provo, UT
Professor, Department of Cell Biology and Physiology, 09/22-Present
Associate Professor, Department of Physiology and Developmental Biology, 07/17-08/22
Assistant Professor, Department of Physiology and Developmental Biology, 07/11-06/17
East Carolina University, Greenville, NC,
Graduate Instructor, Department of Exercise Science, 08/2007-12/2007

AWARDS, HONORS AND RECOGNITION

Faculty

- Distinguished Faculty Award – 2025
- APS Research Career Enhancement Award – 2013
- APS/NSF Mentor Award - 2013
- Oroboros Travel Award, O2K Workshop - 2012

Postdoctoral

- Travel Scholarship, Keystone Symposium - Lipid Biology and Lipotoxicity, 2011

Graduate School

- Valedictorian, Department of Exercise Sciences, Brigham Young University, 2005
- Dean's List, Department of Exercise Sciences, Brigham Young University, 2003-2005

Undergraduate

- Sloan Speech Showcase: Public Speaking Award, Brigham Young University, 2002
- Undergraduate Academic Scholarship, Brigham Young University, 2000-2002

FUNDING

Current

- Sponsored Research Agreement – The endocrine effects of allulose. Total costs: \$93,000. Role of project: PI.

- NIH R15 – RAGE targeting attenuates smoke-induced inflammation. Total costs: \$300,000. Role on project: Co-Investigator.

In Review

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Completed

- Sponsored Research Agreement – Understanding the hyperglycemia of low-carbohydrate diets. Total costs: \$130,000. Role on project: PI.
- BYU Gerontology Grant – The role of ketones in improving brain function. Total costs: \$10,000. Role on project: PI.
- Sponsored Research Agreement – The effects of chlorophyll on protecting against pollution-induced inflammation. Total costs: \$58,272. Role on project: Co-PI.
- BYU Interdisciplinary Research Award – Diabetes, Arthritis, and Alzheimer's Disease: Chronic inflammatory conditions with common origins and treatments. Total costs: \$120,000. Role on project: Collaborator.
- Bobbitt Heart Research Award – Etiology of heart development. Total costs: \$5,000. Role: Co-I.
- Sponsored Research Agreement – Unicity: The capacity of a proprietary anti-oxidant cocktail to mitigate ROS. Total costs: \$60,000. Role: Co-PI.
- BYU Mentoring Environment Grant – The effect of ketones on adipocyte mitochondrial uncoupling. Total costs: \$20,000. Role: PI.
- Bobbitt Heart Research Award – The role of ceramides in heart failure. Total costs: \$13,000. Role: PI.
- BYU Gerontology Research Grant Award, Title: *A Role for Ceramides in Sarcopenia*. Total Costs: \$10,000. Role: PI.
- BYU Mentoring Environment Grant – TLR4/MyD88 signaling in cigarette smoke-induced heart ceramide accrual. Total costs: \$20,000. Role: PI.
- BYU Life Sciences Translational Research Grant – The efficacy of TGF β inhibition via SGI-1252 in the prevention and reversal of diet-induced obesity and diabetes. Total costs: \$15,000. Role: PI.

BYU Diabetes Research Lab

- 2018: \$120,000 – Including a \$110,000 donation to the established endowments.
- 2017: \$114,000 – Including a \$100,000 donation to the established endowments.
- 2016: \$156,000 – Including a donation to establish two endowments to fund student research and conference travel.
- College of Physical and Mathematical Sciences (2014): \$15,000.
- 2015: \$37,000 (various sources)

Student Funding

- 2022 BYU HBLL Award, Title: The bioenergetics of the brain
Total costs: \$1,000. Awardee: Erin Saito
- 2019 BYU CURA, Title: The effect of β -hydroxybutyrate on brain mitochondrial function.
Total costs: \$1,500. Awardee: Lance Good
- 2017 BYU ORCA, Title: The Efficacy of Orally Ingested β -hydroxybutyrate in Skeletal Muscle in the Prevention and Reversal of Diet-induced Obesity and Diabetes. Total costs: \$1,500. Awardee: Brian Parker

- 2016 BYU Graduate Research Fellowship, Title: The role of insulin in the etiology of Alzheimer disease. Total costs: \$10,000. Awardee: Sheryl Carr
- 2016 BYU ORCA, Title: The Efficacy of TGF-Beta Inhibition via SGI-1252 in the Prevention and Reversal of Diet-induced Obesity and Diabetes. Total costs: \$1,500. Awardee: Blake Dallan
- 2013 APS/NSF, Undergraduate Research Fellowship, Title: Reactive Oxygen Species and Mitochondrial Fission. Total costs: \$4,000. Awardee: Braden Tucker
- 2013 BYU Graduate Research Fellowship, Title: Ceramides as a Mediator of Cigarette Smoke-induced Metabolic Disruption. Total costs: \$15,000. Awardee: Mikayla Thatcher
- 2013 BYU ORCA Grant, Title: Ceramides and Oxidative Stress. Total costs: \$1,000. Awardee: Braden Tucker
- 2012 BYU ORCA Grant, Title: Ceramides and AMPK. Total costs: \$1,000. Awardee: Kate Erickson
- 2012 Graduate Research Fellowship, Title: Ceramides and Mitochondrial Function. Total costs: \$15,000. Awardee: Melissa Smith

SERVICE

Journal Leadership

- 2022-present: General Editor, Journal of Metabolic Health
- 2020-2022: General Topic Editor, International Journal of Molecular Science
- 2018-2022: Lead guest editor, International Journal of Molecular Science, "Effects of Ketones on Metabolic Function"
- 2017-2020: Editorial board member, Journal of Insulin Resistance
- 2016-2017: Guest editor, International Journal of Molecular Science, "Inhaled Pollutants Modulate Respiratory and Systemic Diseases"
- 2015-2016: Lead guest editor, Journal of Diabetes Research, "The Role of Inhaled Pollution in the Etiology of Insulin Resistance"
- 2006-2008: Assistant Editor, The International Journal of Sports Medicine

Grant Reviewer

- 2025: - Center of Biomedical Research Excellence (COBRE), Pennington Biomedical Research Center
- 2019: - Auckland Medical Research Foundation
- 2016: - CSR NIH Early Career Reviewer Program
- Maratona de Saude, Cardiovascular Complications of Diabetes and Metabolism (Portugal)
- 2015: - Maratona de Saude, Cardiovascular Complications of Diabetes and Metabolism (Portugal)
- UK Diabetes Fund (England)

Society Leadership and Service

- 2024: - American Diabetes Society – Co-director (ongoing)
- 2016: - Experimental Biology – Co-Chair (ended 2021)
- International Association of Medical Science Educators – Nutrition Objectives Group Member (ended 2022)
- 2015: - American Physiology Society – Translational Physiology Interest Group Planning Committee Member (ended 2023)

- 2011: - Conference assistant, Keystone Symposium – Lipid Biology and Lipotoxicity, Killarney, Ireland
- 2010: - Asia-Pacific Diabetes Obesity Study Group – Chair; Singapore
- Graduate student assistant mentor
- Postdoctoral representative for the Program in Cardiovascular and Metabolic Diseases, Duke-NUS Graduate Student Recruitment Committee

University Appointments and Administrative Responsibilities

- 2023: - Chair: Department Rank & Status Committee
- 2020: - Chair: Department Research Committee (ended 2022)
- 2019: - Department search committee member
- Teaching and Learning Task Force peer reviewer
- 2018: - Department search committee member
- 2017: - College Faculty Consultant with LSAC Pre-professional Development Committee
- Department Search Committee Member
- 2015: - College ORCA Reviewer
- 2014: - Department Research Committee Member
- College MEG Review Committee Chair
- Department Safety Officer
- College Safety Committee
- 2013: - College MEG Review Committee
- Department Safety Officer
- 2012: - Department search committee member
- Department Safety Officer
- 2011: - Department Safety Officer
- 2010: - Session Chair, Asia-Pacific Diabetes Obesity Study Group, Singapore
- Graduate student assistant mentor
- Postdoctoral representative for the Program in Cardiovascular and Metabolic Diseases, Duke-NUS Graduate Student Recruitment Committee

General University Service

- 2023: - Faculty Advisor, BYU Calisthenics Club (ongoing)
- Gerontology Faculty Affiliate (ongoing)
- 2017: - Faculty advisor, BYU Strong Barbell Club (ended 2018)
- 2016: - Director, BYU Diabetes Research Lab (**ongoing**)
- Education Week Presenter: “Why we get sick: Insulin resistance and chronic disease”
- 2015: - Education Week Presenter: “Why we get sick: Insulin resistance and chronic disease”
- Organizer and Director, BYU Sugar Rush 5K (diabetes awareness and fundraiser event) (**ongoing**)
- 2014: - UCUR Moderator

Community and Government Service

- 2025: - Advisor on panel to update federal Dietary Guidelines for Americans
- 2023: - Advisor (on School Nutrition; Joan Christianson, BSN, RN), Provo City School District, Utah County Public Health

Graduate Student Thesis/Dissertation Committees

- 2025: - Eliza Roeth (Thesis Committee **Chair** – CELL)
- 2023: - Jillana AhLoe, Concordia University Chicago (Dissertation Committee Member)
- Adonica Tuitama, University of Utah, College of Nursing (Dissertation Committee Member)
- 2022: - Cali Warren (Thesis Committee **Chair** – CELL; Graduated 2024)
- 2020: - Nathan Zuniga (Dissertation Committee Member – Biochemistry)
- Landon Deru (Dissertation Committee Member – Exercise Sciences)
- Christopher Mendoza (Dissertation Committee Member – PDBIO)
- 2019: - Lynda Guildford, Auckland University of Technology (Thesis Committee Member)
- 2018: - Chase Walton (Thesis Committee **Chair** – PDBIO; Graduated 2020)
- Erin Saito (Dissertation Committee **Chair** – PDBIO)
- Jacob Herring (Dissertation Committee Member – MMBIO)
- 2016: - Sheryl Carr (Thesis Committee **Chair** – PDBIO; Graduated 2016)
- Kevin Steed (Dissertation Committee Member – Neuro)
- BreAnna Hutchinson (Dissertation Committee Member – Neuro)
- Brandon Rose (Dissertation Committee Member – PDBIO)
- 2015: - Aimee Hodson (Thesis Committee **Chair** – PDBIO; Graduated 2016)
- Bradley Naylor (Dissertation Committee Member – Biochemistry)
- Carri Draney (Thesis Committee Member – NDFS)
- 2014: - Nidhi Choksi (Thesis Committee Member – MMBIO)
- Trevor Tippetts (Thesis Committee **Chair** – PDBIO; Graduated 2015)
- Kai Li Ong (Thesis Committee Member – MMBIO)
- 2013: - Seung Ook Yang (Dissertation Committee Member – Biochemistry)
- Courtney Banks (Dissertation Committee Member – Biochemistry)
- Michael Nelson (Thesis Committee Member – PDBIO)
- Amy Crandall (Dissertation Committee Member – PDBIO)
- Chen Ting (Dissertation Committee Member – PDBIO)
- Duane Winden (Dissertation Committee Member – PDBIO)
- 2012: - Melissa Smith (Dissertation Committee **Chair** – PDBIO; Graduated 2014)
- Mikayla Thatcher (Dissertation Committee **Chair** – PDBIO; Graduated 2015)
- Shalene Hardman (Dissertation Committee Member – PDBIO)
- Kevin Tuttle (Dissertation Committee Member – PDBIO)
- 2011: - Shenali De Silva (Dissertation Committee Member – PDBIO)

CONSULTING

- Ketone Labs
- Unicity Advisory Board

PROFESSIONAL AND SCIENTIFIC SOCIETIES**Membership**

- Mitochondrial Physiology Society
- American Diabetes Association
- American Physiology Society
- American Society for Investigative Pathology

TEACHING

Brigham Young University

- CELL305 Physiology: 2024 – present
- CELL570 Responsible conduct and research ethics; selected lectures: 2022-present
- CELL565 Endocrinology: 2022 – present
- CELL601 Cell and Molecular Physiology: 2013 – 2021
- CELL365 Pathophysiology: 2012 – present
- CELL2/495R Research Methods: 2012 – present

East Carolina University

- EXSS8330 Advanced Topics in Metabolism, selected lectures, 2008
- EXSS3805 Physiology of Exercise, 2007

PRESENTATIONS

Invited University and Professional Presentations

1. 2025 The American Heritage Foundation – Washington DC
Presentation: “The metabolic origins of chronic disease”
2. 2025 National University of Singapore – Yong Loo Lin School of Medicine
Presentation: “The Life of the Fat Cell”
3. 2025 Barrington White House
Presentation: “Why we get sick”
4. 2025 Brigham Young University – Gerontology Program
Presentation: “The metabolism of cognitive decline”
5. 2025 Auburn University – School of Nursing Distinguished Lecture Series
Presentation: “The metabolic origins of chronic disease”
6. 2025 Arizona State University
Presentation: “The metabolism of cognitive decline”
7. 2024 National Grazing Land’s Coalition – Regenerating Public Health
Presentation: “Why we get sick”
8. 2024 Rocky Mountain University
Presentation: “Insulin Resistance and Metabolic Health”
9. 2024 Society for Functional Diagnostic Nutrition
Presentation: “Is Allulose Nature’s Ozempic?”
10. 2024 Harvard Business School
Presentation: “GLP-1: Drugs and Natural Agonists”
11. 2024 Intermountain Health – Cardiovascular Unit Grand Rounds
Presentation: “The metabolic origins of heart disease”
12. 2024 Public Health Collaboration UK
Presentation: “The metabolism of longevity”
13. 2024 Massachusetts Institute of Technology – Alumni Association
Presentation: “Why we get sick”
14. 2024 Cardiometabolic Health Congress
Presentation: “Definition and Pathophysiology and Type 2 Diabetes”
15. 2024 Symposium for Metabolic Health Practitioners
Presentation: “Shrinking fat cells: Insulin vs. Energy”
16. 2024 Institute for Human and Machine Cognition
Presentation: “Why we get sick”

17. 2024 Medical University of South Carolina
Presentation: "Insulin vs. Ketones: The battle for brown fat"
18. 2023 Swiss RE (Switzerland)
Presentation: "Insulin resistance and disease: the clinical view"
19. 2023 Kenya Cardiac Society of Africa (Kenya)
Presentation: "The metabolic origins of heart disease"
20. 2023 Utah Chapter of the Association of Nurse Practitioners and Physician's Assistants
Presentation: "Flipping the switch"
21. 2023 Association for the Advancement of Restorative Medicine
Presentation: "Insulin resistance and its role in chronic disease"
22. 2023 Peterson Academy
Presentation: "Why we get sick: The metabolic origins of chronic disease"
23. 2023 Utah Valley University – Physician Assistant Program
Presentation: "Why we get sick: Insulin resistance and how to diagnose it"
24. 2023 MARA Technological University Medical School (Malaysia)
Presentation: "Drug therapies for insulin resistance"
25. 2023 Symposium of Metabolic Health Practitioners
Presentation: "The myths and misunderstandings of physiological insulin resistance"
26. 2022 Noorda School of Medicine
Presentation: "Insulin resistance and disease: the clinical view"
27. 2022 Society of Metabolic Health Practitioners – Grand Rounds
Presentation: "Insulin resistance – Cause and Consequence"
28. 2022 Advanced Practice Providers – Grand Rounds
Presentation: "Why we get sick and what to do about it"
29. 2022 Dallas-Fort Worth Physicians' Group – Grand Rounds
Presentation: "Insulin resistance and disease: the clinical view"
30. 2022 Annual Meeting of the Illinois Obesity Society
Presentation: "Hyperinsulinemia and Obesity"
31. 2022 American Association of Nurse Practitioners and Physician's Assistants
Presentation: "The causes and consequences of insulin resistance"
32. 2022 Utah HOSA Future Health Professionals – Annual Meeting
Presentation: "Why we get sick and what to do about it"
33. 2022 Metabolix Israel – Israel Endocrine Conference
Presentation: "Why we get sick: the role of insulin resistance in chronic disease"
34. 2021 Revere Health Grande Rounds
Presentation: "The metabolic origins of heart disease"
35. 2021 Penn State University – Department of Biochemistry
Presentation: "Understanding insulin resistance"
36. 2021 Stanford University – Department of Bioengineering
Presentation: "The cause and consequence of insulin resistance"
37. 2021 Environmental Health Summit
Presentation: "The Second Pandemic: Insulin resistance and the plagues of prosperity"
38. 2021 American Specialty Health Symposia
Presentation: "Why we get sick and what to do about it"
39. 2021 Metabolix – Israel Endocrine Conference
Presentation: "Flipping the switch: From insulin resistance to diabetes"
40. 2021 United States Navy Medical Professionals – Physicians' Grand Rounds
Presentation: "Flipping the switch: from insulin resistance to diabetes"

41. 2020 International Medical University, Kuala Lumpur, Malaysia
Presentation: "The role of insulin resistance in chronic disease"
42. 2019 The Friedman Center for Breast and Lymphatic Surgery
Presentation: "Why we get sick"
43. 2019 East Carolina University – Diabetes and Metabolism Research Center
Presentation: "Ceramides and Mitochondria"
44. 2019 BYU Marriott School of Management
Presentation: "Misguided Medicine: Why we get sick and fat"
45. 2018 Thailand Medical Professional Seminar - Bangkok
Presentation: "Ketones: A metabolic advantage"
46. 2018 University of Utah
Presentation: "Arylhydrolase receptors as mediators of pollution-induced heart ceramide accrual"
47. 2018 Brigham Young University Forum Address
Presentation: "The plagues of prosperity"
48. 2018 Duke-National University of Singapore
Presentation: "Insulin vs. Ketones: The battle for brown fat"
49. 2018 Autism Hope Awareness
Interview: "The role of sugar in chronic diseases"
50. 2018 Cotton Tree Family Practice Grand Rounds
Presentation: "Why we get sick and fat"
51. 2018 Chinese University of Hong Kong
Presentation: "The Air we Breathe: The effects of Diesel Exhaust on Macrophage Mitochondrial Bioenergetics"
52. 2017 Oman Medical Professional Seminar
Presentation: "Insulin resistance: the plague of prosperity"
53. 2016 Timpanogos Regional Hospital Grand Rounds
Presentation: "Why we get sick: the role of insulin resistance in chronic disease"
54. 2016 Thailand Medical Professionals
Presentation: "Why we get sick: Insulin resistance and Chronic disease"
55. 2015 University of Louisville Diabetes and Obesity Center
Presentation: "Ceramides mediate metabolic disruption following inhaled pollution"
56. 2015 Roseman University of Health Sciences
Presentation: "The pathology of Insulin Resistance"
57. 2014 Brigham Young University, Cancer Research Program
Presentation: "Ceramides, Mitochondria, and Cancer"
58. 2013 Southwest Chapter of ACSM
Presentation: "The role of ceramides as a mediator of metabolic disruption"
59. 2013 University of Utah Vascular Research Laboratory
Presentation: "The Role of Sphingolipids in Metabolic Disruption"
60. 2013 Salt Lake City ARUP Laboratories
Presentation: "Insulin Resistance: The Great Mediator"
61. 2011 Brigham Young University, Department of Nutrition and Food Science
Presentation: "Ceramide as a Regulator of Obesity and Metabolism"
62. 2010 Brigham Young University, Department of Physiology and Developmental Biology
Lecture Series
Presentation: "Between a Rock and Hard Place: Ceramide as a Mediator of Inflammation-induced Insulin Resistance"
63. 2007 East Carolina University, Metabolic Institute for Obesity and Diabetes Research

Presentation: “Does AMPK Inhibit NF- κ B in Skeletal Muscle?”

Invited Scientific Meeting Presentations

1. 2022 American Association of Biological Anthropology
Presentation: “The energy demands of the brain and how we got it wrong”
2. 2020 Obesity and Lymphatics Disorders Summit
Presentation: “Insulin and Lipidema: Fat Where it Doesn’t Belong”
3. 2020 American College of Sports Medicine Annual Meeting
Presentation: “Insulin vs. Ketones: the battle for brown fat”
4. 2020 Metabolic Health Summit
Presentation: “A new paradigm for type 2 diabetes”
5. 2018 American Society of Integrative Pathology
Presentation: “Insulin vs. Ketones: Contrasting effects on brown adipose tissue”
6. 2016 American College of Sports Medicine Annual Meeting
Presentation: “Ceramide Force Fission”
7. 2016 Experimental Biology
Presentation: “Mitochondrial fission is necessary for ceramide-induced metabolic disruption”
8. 2015 American Physiological Society – Physiological Bioenergetics
Presentation: “Sphingolipid accrual is necessary for LPS-induced mitochondrial disruption”

Scientific Meetings

1. 2023 Society for Developmental Biology (poster)
Presentation: “The effects of RAGE up-regulation during pulmonary morphogenesis
2. 2022 European/American Physiological Society (poster)
Presentation: “Beyond the lung: The effect of cigarette smoke on inflammation-induced insulin resistance”
3. 2022 Experimental Biology (poster)
Presentation: “Hormonal response to macronutrients in the context of a low-carbohydrate diet”
4. 2022 Experimental Biology (poster)
Presentation: “Ketogenic diet increases movement and speed in mice”
5. 2022 Experimental Biology (poster)
Presentation: “Ketogenic diet improves neuron mitochondrial bioenergetics in mice”
6. 2021 Experimental Biology (oral)
Presentation: “Alzheimer’s disease alters oligodendrocytic glycolytic and ketolytic gene expression
7. 2021 Experimental Biology (poster)
Presentation: “Smoke exposure compromises sperm mitochondrial bioenergetics”
8. 2020 Experimental Biology (poster)
Presentation: “Metabolic RNA-seq profiles from sporadic Alzheimer’s disease patients: Analysis of glycolytic and ketolytic pathways”
9. 2020 Experimental Biology (poster)
Presentation: “Selective androgen receptor modulation with MK-2866 favorably alters muscle mitochondrial bioenergetics”
10. 2020 Experimental Biology (poster)
Presentation: “4-HNE unfavorably alters muscle mitochondrial bioenergetics and cell viability”

11. 2019 Experimental Biology (poster)
Presentation: "Effect of beta-hydroxybutyrate on myoblast proliferation and differentiation"
12. 2018 Keystone Symposia – Diabetes Mellitus (oral)
Presentation: "Beta-hydroxybutyrate favorably alters beta-cell survival and mitochondrial bioenergetics"
13. 2018 Experimental Biology (oral)
Presentation: "The contrasting effects of ketones on mitochondrial function in muscle and adipose"
14. 2018 Experimental Biology (oral)
Presentation: "The role of ketones on adipocyte mitochondrial uncoupling"
15. 2017 Experimental Biology (poster)
Presentation: "Nasal administration of diesel exhaust particles does not evoke inflammation, endothelial dysfunction, or initiate autophagy in murine femoral arteries"
16. 2017 Experimental Biology (poster)
Presentation: "Beta-hydroxybutyrate favorably alters muscle cell survival and mitochondrial bioenergetics"
17. 2017 Experimental Biology (poster)
Presentation: "Beta-hydroxybutyrate favorably alters beta-cell survival and mitochondrial bioenergetics"
18. 2017 Experimental Biology (poster)
Presentation: "SGL-1252, a TGF-beta inhibitor, protects against diet-induced obesity and insulin resistance in mice"
19. 2017 Experimental Biology (poster)
Presentation: "Insulin alters brain lipid profile and mitochondrial function"
20. 2017 Experimental Biology (Oral)
Presentation: "Diesel exhaust particle exposure compromises macrophage mitochondrial physiology"
21. 2016 Experimental Biology (poster)
Presentation: "Treatment with diet or insulin induces a different placental ceramide expression during gestational diabetes mellitus"
22. 2016 Experimental Biology (poster)
Presentation: "Acylation of SOD1 provides tool to determine if mitochondrial aggregation of SOD1 is main driver of ALS"
23. 2016 Experimental Biology (oral)
Presentation: "Insulin treatment increases myocardial ceramide accumulation and disrupts cardiometabolic function"
24. 2016 Experimental Biology (poster)
Presentation: "Gingival cell smoke exposure disrupts skeletal muscle metabolic function"
25. 2016 Experimental Biology (poster)
Presentation: "HMGB1 mediates sidestream cigarette smoke-induced metabolic disruption"
26. 2016 American Association of Dental Research (poster)
Presentation: "Smoke exposure disrupts skeletal muscle metabolic function through oral gingiva"
27. 2015 Experimental Biology (poster)

- Presentation: "Ceramide-induced Mitochondrial Fission is Necessary for Sidestream Cigarette Smoke-induced Cardiometabolic Disruption"
28. 2015 Experimental Biology (poster)
Presentation: "Macrophage-secreted Ceramides are Necessary for Skeletal Muscle Mitochondrial Disruption with LPS Treatments"
29. 2015 Experimental Biology (poster)
Presentation: "Macrophage-secreted Ceramides are Necessary for Myocardial Mitochondrial Disruption with LPS Treatments"
30. 2014 American Diabetes Association Scientific Sessions (oral)
Presentation: "Mitochondrial Fission is Necessary for Ceramide-induced Metabolic Disruption"
31. 2014 American Diabetes Association Scientific Sessions (poster)
Presentation: "Ceramide is Necessary for Smoke-induced Cardiomyocyte Mitochondrial Disruption"
32. 2014 American Diabetes Association Scientific Sessions (poster)
Presentation: "Insulin Increases Ceramide Biosynthesis in Skeletal Muscle"
33. 2014 American Diabetes Association Scientific Sessions (poster)
Presentation: "Ceramide Mediates Cigarette Smoke-induced Metabolic Disruption"
34. 2014 American Diabetes Association Scientific Sessions (poster)
Presentation: "RAGE Activation Disrupts Heart Mitochondrial Function"
35. 2014 Experimental Biology (poster)
Presentation: "Mitochondrial Fission is Necessary for Ceramide-induced Metabolic Disruption"
36. 2014 Experimental Biology (poster)
Presentation: "Ceramide is Necessary for Smoke-induced Cardiomyocyte Mitochondrial Disruption"
37. 2013 Experimental Biology (poster)
Presentation: "Reactive Oxygen Species Generation as a Result of Ceramide-induced Mitochondrial Fission"
38. 2013 Experimental Biology (poster)
Presentation: "Ceramides as a Mediator of Cigarette Smoke-induced Metabolic Disruption"
39. 2013 Experimental Biology (poster)
Presentation: "Mitochondrial Fission as a Mediator of Ceramide-induced Metabolic Disruption"
40. 2012 APS – Integrative Biology of Exercise (poster)
Presentation: "AICAR selective inhibits ceramide biosynthesis in skeletal muscle"
41. 2011 FASEB Summer Research Conferences – Glucose Transporters, Signaling, and Diabetes (poster)
Presentation: "Dihydroceramide desaturase inhibition prevents ceramide accumulation and improves insulin sensitivity"
42. 2011 Keystone Symposium – Lipid Biology and Lipotoxicity (poster)
Presentation: "Fenretinide improves insulin sensitivity by inhibiting dihydroceramide desaturase and preventing ceramide accumulation"
43. 2011 Singapore Annual Scientific Meeting in Translational Science (poster)
Presentation: "Fenretinide improves insulin sensitivity by inhibiting dihydroceramide desaturase and preventing ceramide accumulation"
44. 2011 Keystone Symposium - Type 2 Diabetes, Insulin Resistance and Metabolic Dysfunction (poster)

- Presentation: "Resveratrol protects from lipid-induced insulin resistance, independent of Sirt1, via inhibition of ceramide"
45. 2010 Duke-NUS Research Symposium, Singapore (oral)
Presentation: "Mechanism of inflammation-induced insulin resistance: Reliance of TLR4 action on ceramide synthesis reveals role for saturated fatty acids"
46. 2010 SingHealth-Duke-NUS Scientific Congress, Singapore (poster)
Presentation: "Inflammation, Lipids, and Insulin Resistance"
47. 2010 Meeting of the Asia-Pacific Diabetes/Obesity Study Group, Singapore (oral)
Presentation: "Mechanism of inflammation-induced insulin resistance: Reliance of TLR4 action on ceramide synthesis reveals role for saturated fatty acids"
48. 2010 MGH-KI-Cell Days of Molecular Medicine, Stockholm, Sweden (oral)
Presentation: "Mechanism of inflammation-induced insulin resistance: Reliance of TLR4 action on ceramide synthesis reveals role for saturated fatty acids"
49. 2009 American Diabetes Association Scientific Session, New Orleans, LA (oral)
Presentation: "Lipid-induced insulin resistance is prevented in lean and obese myotubes with AICAR treatment"
50. 2008 APS Integrative Biology, Hilton Head, SC (poster)
Presentation: "The effects of intrinsic aerobic capacity and diet on insulin signaling and IKK β activity in rats"
51. 2008 American Diabetes Association Scientific Session, San Francisco, CA (poster)
Presentation: "Insulin Sensitivity Improves After Gastric-Bypass in the Obese: a Possible Mechanism"
52. 2008 Experimental Biology, San Diego, CA (poster)
Presentation: "A Novel Mechanism for Metformin in Improving Insulin Signaling in Skeletal Muscle"
53. 2005 ACSM National Meeting, Nashville, TN (oral)
Presentation: "VO₂max and C-Reactive Protein in Women"

Invited Community Presentations

1. 2025 BYU Wellness Week
Presentation: "The Worth of Souls"
2. 2023 BYU Wellness Week
Presentation: "Why we get sick: The metabolic origins of chronic disease"
3. 2022 Provo Rotary Club
Presentation: "What is insulin resistance and why does it matter?"
4. 2022 BYU Student Health Center
Presentation: "The role of insulin resistance in health"
5. 2020 Logan Swimmer's Association
Presentation: "Fuel Use and Performance"
6. 2020 BYU Men's Volleyball
Presentation: "Fuel Use and Performance"
7. 2020 Pacific Area; Church of Jesus Christ of Latter-day Saints
Presentation: "Why we get sick and what to do about it"
8. 2020 BYU Education Week
Presentation: "Why we get sick"
9. 2019 BYU Physical Facilities Lunch and Learn
Presentation: "Why we get sick and fat"
10. 2019 Utah Wellness Symposium
Presentation: "Why we get sick and fat"

11. 2019 YSA 3rd Stake; Church of Jesus Christ of Latter-day Saints
Presentation: "Insulin Resistance: Why we get fat and sick"
12. 2017 Orem Rotary Club
Presentation: "In defense of fat"
13. 2017 KetoCon
Presentation: "Insulin vs. Ketones: Battle for the Mitochondrion"
14. 2017 Canada's Mormon Trail Chautauqua
Presentation: "Why we get sick and fat: what to do about it"
15. 2017 Elderquest, Utah Valley University
Presentation: "Why we get sick and fat"
16. 2016 Southern Alberta Chautauqua
Presentation: "The Plagues of Prosperity"
17. 2016 Brigham Young University Police
Presentation: "In Defense of Fat"
18. 2015 Brigham Young University, Diabetes Club
Presentation: "Diabetes, Insulin, and Ketones"

PUBLICATIONS

Published Manuscripts

1. Sturgis KA, Davidson BD, Richardson AW, Hiatt O, Edwards BC, Evans EP, Campbell C, Radford JH, Arroyo JA, **Bikman BT**, Reynolds PR. Potential Use of VYN202, a Novel Small Molecular Bromodomain and Extra-Terminal Inhibitor, in Mitigating Secondhand Smoke (SHS)-Induced Pulmonary Inflammation. *Current Issues in Molecular Biology*. 2025;47(12):1062.
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3. Roeth EJ, Parker G, Cooper-Leavitt EF, Beus CG, Braithwaite CR, Morris MD, Reynolds AP, Evans EP, Radford JH, Davis FD, Reynolds PR, Parrish RR, **Bikman BT**. Effect of Exogenous Ketones as an Adjunct to Low-Calorie Diet on Metabolic Markers. *Nutrients*. 2025. PMID: 41305632.
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