**SUSAN A. BLOOMFIELD**

Associate Dean for Research

College of Education and Human Development

Professor, Dept. of Health and Kinesiology

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**EDUCATION**

B.A. Biology, Oberlin College, 1974

M.A. Physical Education, The University of Iowa, 1978

Ph.D. Exercise Physiology, The Ohio State University, 1992

**PROFESSIONAL EXPERIENCE**

Associate Dean for Research, College of Education & Human Development, Texas A&M

University (2016 – present; 100% effort)

Asst. Provost, Office of Graduate & Professional Studies, Texas A&M University

(2012-2016; 33% effort)

Professor, Health and Kinesiology, Texas A&M University (2006 - present)

Graduate Studies Chair and Assoc. Department Head (2010 - 2011)

Research and Grants Coordinator (2008- 2010)

Associate Member, TAMU Health Science Center School of Graduate Studies Faculty (2012- )

Member, Nutrition and Food Sciences Graduate Faculty, Texas A&M University (2012-2016)

Associate Lead, National Space Biomedical Research Institute Musculoskeletal Alterations

Team (2008-2012); Associate Lead, NSBRI Bone Loss Team (2000-2007)

Associate Professor, Health and Kinesiology, Texas A&M University (1999-2006)

Member, Intercollegiate Graduate Faculty of Nutrition, Texas A&M University (1999–2012)

Assistant Professor, Health and Kinesiology, Texas A&M University (1993-1999)

Visiting Assistant Professor, Exercise Science, The University of Iowa (1992-1993)

Assistant Professor, Exercise and Health Science; Director, Adult Fitness Program;

Head Coach, Women's Swimming and Diving, Alma College (MI) (1982-1985)

Program Coordinator, Cardiac Rehabilitation Unit and Employee Fitness Program; Research Assistant, Preventive Medicine, Washington University School of Medicine (1978-1982)

**PROFESSIONAL CERTIFICATIONS**

Exercise Program Director, American College of Sports Medicine (1982)

Advanced Physical Fitness Specialist, Young Men's Christian Association (1980)

**PROFESSIONAL ASSOCIATIONS**

Orthopaedic Research Society Sun Valley International Musculoskeletal Biology Workshop

Advisory Board (2015-2018)

International Society of Bone Morphometry (member since 2011)

American Society of Nutrition (member since 2008)

International Bone and Mineral Society (2004-2015)

American Physiological Society (member since 1996)

Councilor, Environmental & Exercise Physiology Section; 2009-2012

American Society for Bone and Mineral Research (member since 1990)

Membership Engagement & Education Committee (member), 2015-18

Texas Regional Chapter, American College of Sports Medicine

President, 1999-2000

Board member, 1996-2001

American College of Sports Medicine (member since 1982)

Program Committee, Integrative Physiology of Exercise Meeting (2009-2010)

Scientific Content Advisory Committee; 2009-2015

ACSM Annual Meeting Program Committee; 2003- 2006

Ethics and Professional Conduct Committee; 2003-2005

Board of Trustees; 2000-2003

Research Review Committee; 2000-2003

Chair, ACSM Bone and Osteoporosis Network Interest Group; 1996-1998

Symposium chair at annual meeting: 1995, 1997, 1999, 2001-2005, 2007, 2014, 2015

**HONORS AND AWARDS**

Fellow, National Academy of Kinesiology (2017)

American College of Sports Medicine Citation Award (2016)

Texas A&M Dept. of Health & Kinesiology Robert B. Armstrong Research Scholar (2011)

Texas Regional Chapter, Amer. College of Sports Medicine Spring Tour Lecturer (2008)

Texas A&M College of Education & Human Development nominee for Association of Former

Students Distinguished Research Award (2007, 2015)

Texas Regional Chapter ACSM Honor Award (2004)

Texas A&M University Montague Center for Teaching Excellence Scholar (1998)

Fellow, American College of Sports Medicine (1997)

American Physiological Society Research Career Enhancement Award (1997)

Funded working visit to Mayo Clinic (MN)-- mRNA isolation/quantification from bone

Texas A&M College of Education Outstanding New Faculty Member Award (1994)

ACSM Visiting Scholar Award (1993)

Funded working visit to Creighton Univ (Omaha)-- cancellous bone histomorphometry

**EDITORIAL BOARDS/REVIEWING ACTIVITIES**

Review Editor, *Frontiers in Physiology: Environmental, Aviation and Space Physiology* (2018-)

Member, CASIS Musculoskeletal Research on ISS Science Direction Team (2015)

Member, National Academy of Science & Engineering Committee to Review NASA’s Evidence

Reports on Human Health Risks (2013-2017)

Member, National Academy of Science & Engineering Standing Committee on Aerospace

Medicine and the Medicine of Extreme Environments (2012-2018)

Grant Reviewer, NSBRI FIRST Awards (Post-Doctoral Fellowships) (2012-2015)

Grant Reviewer (*ad hoc*), NIH SCORE Review Panel (Nov, 2011);NIA RO1 Review Panel (March, 2011); NIAMS PO1 Review Panels (9/2009; 7/2010; 9/2011; 9/2015; 9/2016; 6/2017; 11/2017; 4/2018)

Member, European Science Foundation THESEUS Panel (Towards Human Exploration of Space: a European Strategy) (2010-2011)

Member, NASA Bone Expert Advisory Panel, JSC Exercise Countermeasures Project (2007)

Member, NASA/ESA International Multidisciplinary Artificial Gravity Project Review Panel

(2005- 2007)

Member, NASA/ESA Flywheel Exercise Device Non-Advocate Review Committee (2004- 2006)

Grant Reviewer (ad hoc), Department of Defense Bone Health and Military Medical Readiness

Research Program (February, 2003)

NSBRI Representative, Bioastronautics Critical Path Control Panel (2000-2003)

ACSM Research Foundation Reviewer (2000-2003)

Grant Reviewer (*ad hoc*), Arkansas Science & Technology Authority (April, 2000)

Grant Reviewer (*ad hoc*), Special Emphasis Review Panel, Geriatric and Rehabilitative Medicine, NIH (March, 1998; June, 2001)

Member, NASA Interim Resistance Exercise Device Non-Advocate Review Panel (1998-2002)

Reviewer (*ad hoc*), proposals to Spinal Cord Research Foundation (Paralyzed Veterans of America) (1995-1996)

Editorial Board, *Medicine and Science in Sports and Exercise* (2005-2012)

Orthopedics Section Editor, *Clinical Exercise Physiology* (1998-2002)

Reviewer: *Journal of Applied Physiology, American Journal of Physiology, Journal of Bone and Mineral Research, International Journal of Sports Nutrition & Exercise Metabolism, Exercise and Sport Sciences Reviews, Bone, Medicine and Science in Sports and Exercise, Journal of Nutrition, Radiation Research, International Journal of Sports Medicine, Acta Astronautica, European Journal of Applied Physiology, Journal of Musculoskeletal and Neuronal Interactions, PLOS One, Journal of Osteoporosis, Osteoporosis International, Peer Journal, npjMicrogravity, Frontiers in Physiology*

Invited reviewer, Mayfield Publishing for *Fitness and Sports Medicine: A Health-Related Approach* (4th edition), by David C. Nieman (1997)

Invited reviewer, American College of Sports Medicine’s *Resource Manual for Guidelines*

*For Exercise Testing and Prescription* (3rd and 4th editions) (1996 & 1999)

# FUNDED PROPOSALS

#### Federal/National—Active

**Translational Research Institute for Space Health** Role: Mentor

1/2018-12/2019 Total costs: $114,968

***Will use of long-acting, reversible contraceptives mitigate bone loss in female rats***

***during simulated exploration class missions?***  This post-doctoral fellowship (awarded to

Dr. Heather Allaway) will determine whether the reduced turnover in bone with contraceptive

use will diminish loss of bone observed with simulated microgravity in a small rodent model.

**NASA Human Exploration Research Opportunities** Role: PI (5%)

12/2016-12/2017 (NCE to 12/2018) Total costs: $100,000

***Mitigating radiation-induced bone loss via dietary modulation of oxidative stress***

This project tests efficacy of an anti-oxidant diet high in omega-3 fatty acids in mitigating

oxidative stress and bone decrements incurred after whole body exposures to 3 doses of both

heavy iron and gamma radiation in both female and male older mice.

**NASA Space Biology** Role: PI (15%)

08/13 - 07/2016 (NCE to 12/2018) Total costs: $746,994

***Iron overload and oxidative damage: regulators of bone homeostasis in the space environment*** These ground-based experiments seek to define the role oxidative damage plays in the bone loss observed with in zero gravitational environments, with and without simulated space radiation exposure. Iron overload (induced by dietary means) will be im-posed as another manipulator of oxidative damage that is also relevant to human responses to spaceflight. A unique aspect of these studies will be the use of continuous very low-dose radiation exposure to best simulate galactic cosmic radiation.

**NASA Space Biology** Role: Co-I (10%)

08/13 - 07/2016 (NCE to 8/2018) Total costs: $714,793

***Pre-Treatment Approaches for Improving the Response of Bone to Disuse and Recovery*** The objective of this project is to provide a side-by-side evaluation of treatments proven to be anabolic (resistance exercise, sclerostin antibody) and anti-catabolic (residronate, zolendronate) for bone delivered in the period just before ground-based simulations of zero gravitational loading. The intent is to transition these experiments to in-flight studies aboard ISS. (PI: H.A. Hogan, Texas A&M Mechanical Engineering)

**Federal/National-- Completed (total costs listed)**

Bloomfield SA. *Sclerostin's role in regulating bone formation during long-term simulated*

*microgravity and subsequent recovery*

11/2014-10/2015 (NCE to 8/2017) Role: PI $100,000

Butler-Purry, K (PI). *Expanding CIRTL Practitioners at TAMU*

Great Lakes Higher Education Foundation

09/14-08/17 Role: Co-PI $129,300

Turner ND (PI) *A Graduate Education Program Focusing on Space Life Sciences.*

NASA- National Space Biomedical Research Institute

07/12 – 06/2017 Role: Faculty Mentor $1,000,000

Butler Purry, K (PI for TAMU). *Center for Integration of Research & Teaching in Learning Network*

National Science FoundationRole: Co-PI $138,000

Hogan HA, Bloomfield SA. *Can benefits from a single administration of bisphosphonate extend to a second, later exposure to microgravity?* NASA Human Research Program

09/13 - 08/2014 Role: Co-I $99,865

Bloomfield SA, Fluckey JD, Hogan HA, Braby LA, Wang SJ. *Maintaining musculoskeletal*

*health in the Lunar environment.*NASA-Ntnl Space Biomedical Research Institute, 06/08 – 09/12. Role: PI $1,370,879

Hogan HA, Bloomfield. *Contributors to long-term recovery of bone strength following*

*exposure to microgravity.*  NASA.

07/08-06/2011 (no-cost extension to 11/12) Role: Co-I $1,023,379

Lupton JA, Turner ND, Johnson L. *A Graduate Education Program Focusing on Space Life*

*Sciences.* NASA-Ntnl Space Biomedical Research Institute

01/06 – 08/2012 Role: Collaborator/Faculty Mentor $2,133,178

Bloomfield SA.*Associate Lead for NSBRI Musculoskeletal Alterations Team.* NASA/National Space Biomedical Research Institute, 05/08 – 04/12 Role: PI $140,000

Bloomfield SA, Hogan HA, DeSouza MJ (Penn State Univ). *Impact of graded energy restriction on bone health in exercising female rats: endocrine mechanisms.* Department of Defense, 4/06-3/09 (No-cost extension through 4/10) Role: PI $1,197,415

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Bloomfield SA. *Associate Lead for NSBRI Bone Loss Team.* NASA/National Space Biomedical Research Institute, 05/04 – 04/08 Role: PI $140,000

Bloomfield SA, Hogan HA, Baldwin KM (UC-Irvine*). Increasing Efficiency of Exercise Counter-measures for Bone Loss.* NASA/National Space Biomedical Research Institute, Principal Investigator. 04/01/04- 3/31/08 Role: PI $1,788,905

Baek K, Bloomfield SA. (Co-PI). *Nutrient restriction effects on bone in exercising females.* American College of Sports Medicine Research Foundation. 7/05-6/06 $4,991

(K. Baek was my doctoral student)

Lupton, J. (PI). *A Graduate Education Program Focusing on Space Life Sciences (Phase I).* NASA/National Space Biomedical Research Institute, S.A. Bloomfield--Co-Investigator. 1/01/2005 - 12/31/2005. $116,026

Bloomfield SA. *Associate Lead for NSBRI Bone Loss Team.* NASA/National Space Biomedical Research Institute, 05/00 – 04/04 Role: PI $140,000

Bloomfield SA, Hogan HA. *Bone and muscle recovery from simulated microgravity.* NASA/ Ntnl. Space Biomedical Research Institute (PI). 10/00-9/03 $855,803

Smith CL (Baylor College of Medicine), Weigel NL, (Baylor COM), Bloomfield SA. *Receptor counter- measures to bone loss in microgravity*. NASA/National Space Biomedical Research Institute, Co-I. 10/00-9/03 $172,121

Bloomfield SA, Delp MD, Suva LJ (Smith-Kline Beecham), Hogan HA. *Bone blood flow during simulated microgravity: physiological and molecular mechanisms.* NASA/National Space Biomedical Research Institute, Co-PI. 10/97-9/00 $699,608

Schultheis LW (Johns Hopkins Univ.), Shapiro JR (JHU), Bloomfield SA, Fedarko NS(JHU), McBride DJ (JHU). *The effects of partial mechanical loading and ibandronate on skeletal tissues in the adult rat hindquarter suspension model of microgravity.* NASA/National Space Biomedical Research Institute, Co-Investigator. 10/97-9/00 $227,473 (to Texas A&M)

O’Malley BW (Baylor College of Medicine), Smith CL(BCOM), Weigel NL (BCOM), and Brown EM (Harvard). [S.A. Bloomfield, PI on sub-contract] *Novel receptor-based counter-measures to microgravity-induced bone loss.* NASA/National Space Biomedical Research Institute, 3/00-9/00, $38,623 (to Texas A&M)

Bloomfield SA. *Integrating molecular techniques into bone physiology research*. American Physiological Society Research Career Enhancement Award, Principal Investigator. 6/97-8/97 $4,000

Bloomfield SA. *Molecular mechanisms for the bone response to mechanical loading in an in vivo model: preliminary studies.* National Science Foundation (PI) 6/93-12/95 $18,000

Bloomfield SA. *Visiting Scholar Award* (funding working visit to D.B. Kimmel laboratory at Creighton University's Osteoporosis Research Center), American College of Sports Medicine, Principal Investigator, 6/93-8/93 $3268

**State And Local**

Bloomfield SA, Dunbar BJ, Garney WR. *Retired astronaut biomedical data repository*. TAMU Division of Research Triad (T3) Grant Program, 4/1/2018-3/31/2020. $30,000 (plus tuition/UG wage supplements)

Bloomfield SA and Zawieja DC (Co-PI’s). *Lymphatic biology and bone health in inflammatory bowel disease: impact of exercise.* College of Education & Human Development (Texas A&M) Transforming Lives Research Grant, 6/2015-12/2016, $29,334.

Turner ND, Bloomfield SA, and Ford JR. *Pathways to the Doctorate Fellowship Program*. Texas A&M Office of Graduate Studies, 2012-2015. (provides up to two fellowships/yr to incoming Ph.D. students from TAMU System universities, up to $180,000 total)

Bloomfield SA. *Impact of timing of NSAID administration on the bone response to chronic exercise.* Texas A&M Huffines Institute for Sports Medicine and Human Performance Faculty Research Mini-Grant, 12/09-8/10, $5496.

Bloomfield SA. *Effect of mechanical unloading on bone in mice lacking genes for eNOS.* TAMU College of Education Development Award, 3/02-12/02, $5860. (funded developmental leave project in the laboratory of Dr. Laurence Vico, Univ. of St. Etienne School of Medicine, France)

Bloomfield SA. *Role of bone matrix proteins decorin and biglycan in skeletal adaptations to altered loading*. TAMU College of Education Seed Grant Program, 2/00-1/01, $7398.

Bloomfield SA. *Does aging attenuate the growth factor response of bone to mechanical loading?* TAMU Office of University Research *Program to Enhance Scholarly and Creative Activities*, 7/97-6/98, $7500.

Bloomfield SA. *Localizing the growth factor response to mechanical loading in bone cells: in situ hybridization studies.* TAMU Research and Graduate Studies Faculty Mini-Grant program, 11/95-12/95, $1500.

Bloomfield SA. *A non-invasive, in vivo method for studying adaptation of bone to mechanical loading: validation studies.* TAMU Office of University Research Program to Scholarly and Creative Activities, 6/94-6/95, $7365.

Bloomfield SA. *The efficacy of exercise induced by functional electrical stimulation in reversing neurogenic osteopenia in spinal cord injured individuals*. The Ohio State University Graduate School Graduate Student Alumni Research Award, 5/89, $1500.

Bloomfield SA.  *The efficacy of functional electrical stimulation induced exercise and weight bearing in minimizing bone loss subsequent to spinal cord injury.* Sigma Xi Grant-in-Aid of Research, 3/89, $600.

Bloomfield SA. *Effects of exercise training and dobutamine on bone loss incurred during hindlimb unweighting in rats.* Oberlin CollegeAlumni Fellowship Award, 4/87, $1250

**PATENTS**

“Uses of Irisin.” U.S. Provisional Pat, Ser. No. 62/577,036, filed October 25, 2017. Lead Inventor: Metzger CE. Co-Inventors: Narayanan SA, Zawieja DC, Bloomfield SA.

**PUBLICATIONS**

**Peer-Reviewed Book Chapters (n=10)** *(SB graduate students/trainees in italics)*

**Bloomfield SA** and *Metzger CE*. Novel findings in bone biology: impact on bone health for women. In: Spangenberg, E (ed). *Integrative Physiology of Women’s Health,* pp 17-33, 2013.(New York, NY: Springer)

Carpenter RD, Lang TF, **Bloomfield SA**, Bloomberg JJ, Judex S, Keyak JH, Midura RJ, Pajevic PD, Spatz JM. Effects of long-duration spaceflight, microgravity, and radiation on the neuromuscular, sensorimotor, and skeletal systems. In: Levine JS, Schild RE (Eds). *The Human Mission to Mars: Colonizing the Red Planet*, pg 389-453, 2010. (Cambridge, MA: Cosmology Science Publishers)

Smith SS, Wang C-HE, **Bloomfield SA.** Osteoporosis. In: Durstine JL,Moore GE, Painter PL, Roberts SO (Eds). *American College of Sports Medicine’s Exercise Management for Persons with Chronic Diseases and Disabilities, 3rd edition,* pg 270-279, 2009. (Champaign, IL: Human Kinetics)

**Bloomfield SA.** The risks to bone health during missions to the Moon and Mars. In: Cavanagh PR, Rice AJ (Eds). *Bone Loss During Spaceflight: Etiology, Countermeasures, and Implications for Bone Health on Earth,* pg 229-237, 2007. (Cleveland, OH: Cleveland Clinic Foundation Press)

**Bloomfield SA,** Smith SS. Osteoporosis. In: Durstine JL, Moore GE (Eds). *American College of Sports Medicine’s Exercise Management for Persons with Chronic Diseases and Disabilities, 2nd edition,* pg 222-229, 2003. (Champaign, IL: Human Kinetics)

Warner SA, **Bloomfield SA.** Deconditioning and Best Rest: Induced Effects on Bone Health. In: Roitman JL (Eds). *American College of Sports Medicine Resource Manual for Guidelines for Exercise Testing and Prescription, 4th edition*, pg 198-202, 2001. (Baltimore: Lippincott, Williams and Wilkins)

**Bloomfield SA.** Effects of detraining and bed rest on bone health. In: Roitman JL (Eds). *American College of Sports Medicine Resource Manual for Guidelines for Exercise Testing and Prescription, 3rd edition*, pg 195-199, 1998. (Baltimore: Williams and Wilkins)

**Bloomfield SA**. Osteoporosis. In: Durstine JL (Eds). *American College of Sports Medicine’s Exercise Management for Persons with Chronic Diseases and Disabilities,* pg 161-166, 1997. (Champaign, IL: Human Kinetics)

**Bloomfield SA.** Bone, ligament, and tendon. In: Lamb DR, Gisolfi CV, Nadel E (Eds). *Perspectives in Exercise Science and Sports Medicine, Vol. 8: Exercise in Older Adults*, pg 175-235, 1995. (Carmel, IN: Cooper Publishing Group)

**Bloomfield SA,** Coyle EF. Physiological consequences of bed rest and deconditioning. In: J. L. Durstine (Ed.) *American College of Sports Medicine Resource Manual for Guidelines for Exercise Testing and Prescription, 2nd edition*, pg 115-128, 1993. (Philadelphia: Lea & Febiger)

**Peer-Reviewed Journal Papers (n=68)** *(SB graduate students/trainees in italics; \* = shared first authorship)*

Narayanan A\*, *Metzger CE\*,* ***Bloomfield SA,***Zawieja DC*.* Inflammation-induced lymphatic architecture and bone turnover changes are ameliorated by irisin treatment in chronic inflammatory bowel disease. *FASEB J* (in press)

*Lima F, Swift JM,* Greene ES, Allen MR, *Cunningham DA,* Braby LA, **Bloomfield SA.** Exposure to low-dose X-ray radiation alters bone progenitor cells and bone micro-architecture. *Radiat Res* 188: 433-442, 2017.DOI: 10.1667/RR14414.1

*Metzger CE\*,* Narayanan A\*, Zawieja DC, **Bloomfield SA.** Inflammatory bowel disease in a rodent model alters osteocyte protein levels controlling bone turnover.  *J Bone Miner Res* 32: 802-813, 2017. DOI: 10.1002/jbmr.3027

*Metzger CE,* Brezicha JE, Elizondo JP,Narayanan A, Hogan HA, **Bloomfield SA.** Differential

responses of mechano-sensitive osteocyte proteins in forelimbs and hindlimbs in hindlimb unloaded rats.  *Bone* 105: 26-34, 2017.

Lang T, Van Loon JWA, Bloomfield S, Vico L, Chopard A, RittwegerJ, Kyparos A, Blottner D,

Vuori I, Gerzer R, Cavanagh PR. Towards human exploration of space: the THESEUS review series on muscle and bone research priorities. npj Microgravity 3: Article 8. 2017. DOI: 10.1038/s41526-017-0013-0.

*Macias BR, Lima F, Swift JM, Shirazi-Fard Y*, Greene ES, Allen MR, Fluckey J, Hogan HA, Braby L, Wang S, **Bloomfield SA**. Simulating the Lunar environment: Partial weightbearing and high-LET radiation induce bone loss and increase sclerostin-positive osteocytes. *Radiat Res* 186: 254-263, 2016. DOI: 10.1667/RR13579.1

*Metzger CE, Baek K, Swift SN,* De Souza MJ**, Bloomfield SA.** Exercise during energy

restriction mitigates bone loss but not alterations in estrogen status or metabolic hormones. *Osteoporosis Int* 27(9): 2755-2764, 2016. DOI:10.1007/s00198-016-3590-y.

**Bloomfield SA,** Martinez DA, *Boudreaux RD, Mantri AV.* Microgravity stress: Bone and connective tissue [review]. *Comp Physiol* 6: 645-686, 2016. DOI: 10.1002/cphy.c130027

Ritchie LE, Taddeo SS, Weeks BR, *Lima F,* **Bloomfield SA**, Azcarate-Peril M, Zwart SR, Smith SM, Turner ND. Space environmental factor impacts upon murine colonic microbiota and mucosal homeostasis. *PLoS One* 10 (6): e0125792, 2015.

Avin KG, **Bloomfield SA,** Gross TS, Warden SJ. Biomechanical aspects of the muscle-bone

interaction. *Curr Osteoporos Rep*. 13(1): 1-8, 2015.

*Swift SN, Swift JM,* **Bloomfield SA**. Mechanical loading increases detection of estrogen-alpha

receptors in osteocytes and osteoblasts despite chronic energy restriction. *J Appl Physiol* 117: 1349-1355, 2014. DOI: 10.1152/japplphysiol.00588.2013.

*Shirazi-Fard Y, Metzger CE*, Kwaczala AT, Judex S*,* **Bloomfield SA,** Hogan HA.  [Moderate intensity resistive exercise improves metaphyseal cancellous bone recovery following an initial disuse period, but](https://scholar.google.com/scholar?oi=bibs&cluster=17711559911176568458&btnI=1&hl=en) does not mitigate decrements during a subsequent disuse period in adults rats. *Bone* 66: 296-305, 2014.

Ploutz-Snyder L, **Bloomfield S**, Smith SM, Hunter SK, Templeton K, Bemben D. Effects of sex and gender on adaptation to space: musculoskeletal health. *J Women’s Health* 23 (11): 963-966, 2014.

*Boudreaux RD, Metzger CE, Macias BR, Shirazi-Fard Y,* Hogan HA, **Bloomfield SA.** Bone loss

during partial weightbearing (1/6th gravity) is mitigated by resistance and aerobic exercise in mice. *Acta Astronautica* 99: 71-77, 2014. DOI: 10.1016/j.actaastro.2014.02.015

*Boudreaux RD, Swift JM,* Gasier HG, Wiggs MP, Hogan HA, Fluckey JA, **Bloomfield SA.**

Increased resistance during jump exercise does not enhance cortical bone formation. *Med Sci Sports Exerc*  46(5): 982-989, 2014.

*Shirazi-Fard Y,* Anthony RA, Kwaczala AT, Judex S*,* **Bloomfield SA,** Hogan HA. Previous

exposure to simulated microgravity does not exacerbate bone loss during subsequent exposure in the proximal tibia of adult rats. *Bone* 56(2): 433-43, 2013.

*Swift JM***,** *Lima F, Macias BR,* Allen MR, Greene ES, *Shirazi-Fard Y, Kupke JS,* Hogan HA, **Bloomfield SA.** Partial weightbearing does not prevent musculoskeletal losses associated with disuse. *Med Sci Sports Exerc* 45(11): 2052-2060, 2013.

*Swift JM,* Hogan HA, **Bloomfield SA**. Beta-1 adrenergic agonist mitigates unloading-induced bone loss by maintaining formation. *Med Sci Sports Exerc* 45(9): 1665-1673, 2013. Featured in Editor’s Comments: <http://journals.lww.com/acsm-msse/pages/default.aspx>

*Shirazi-Fard Y, Kupke JS*, **Bloomfield SA,** Hogan HA. Discordant recovery of bone mass and mechanical properties during prolonged recovery from disuse.  *Bone*; 52(1): 433-43, 2013.

*Baek K,* **Bloomfield SA.** Blocking β-adrenergic signaling attenuates reductions in circulating leptin, cancellous bone mass , and marrow adiposity seen with dietary energy restriction. *J Appl Physiol* 113: 1792-1801, 2012.

*Swift SN, Baek K, Swift JM,* **Bloomfield SA.** Restriction of dietary energy intake has a greater impact on bone integrity than does restriction of calcium in exercising female rats.  *J Nutr.* 142: 1038-1045, 2012.

*Macias BR, Swift JM, NilssonMI*, Hogan HA, *Bouse SD*, **Bloomfield SA**.Simulated resistance

training, but not alendronate, increases cortical bone formation and suppresses sclerostin during disuse. *J Appl Physiol* 112: 918-925, 2012.

Kim W-K, **Bloomfield SA**, Ricke SC. Effects of age, vitamin D3, and fructooligosaccharides on bone growth and skeletal integrity of broiler chicks. *Poultry Sci* 90: 2425-2432, 2011.

*Swift JM, Swift SN, Nilsson MI,* Hogan HA, *Bouse SD*, **Bloomfield SA**. Cancellous bone formation response to simulated resistance training during disuse is blunted by concurrent alendronate treatment. *J Bone Miner Res*  26: 2140-2150, 2011.

Nuka S, Zhou W, Henry SP, Johnson J, Tamayuki S, Wang Y, Keene DR, Allen MR, **Bloomfield SA,** Ramirez-Solis R, Behringer RR, Young MF and Hook M. Epiphycan-null mice and epiphycan/biglycan double-null mice have minor skeletal defects and develop premature osteoarthritis. *Osteoarthritis Cartilage* 18: 88-96, 2010.

*Swift JM,* Gasier HG, Wiggs MP, Hogan HA, Fluckey JA, **Bloomfield SA.** Increased training loads do not magnify cancellous bone gains with rodent jump resistance exercise. *J Appl Physiol* 109: 1600-1607, 2010.

Carpenter RD, Lang TF, **Bloomfield SA,** Bloomberg JJ, Judex S, Keyak JH, Midura RJ, Pajevic PD, Spatz JM. Effects of long-duration spaceflight, microgravity, and radiation on the neuromuscular, sensorimotor, and skeletal systems.  *J Cosmology* 12: 3778-3807, 2010. Published online: <http://journalofcosmology.com/Mars147.html>

**Bloomfield SA.** Disuse osteopenia. *Curr Osteoporosis Rep* 8: 91-97, 2010.

*Swift JM*, Hogan HA, *Nilsson MI, Sumner LR*, **Bloomfield SA.** Simulated resistance training during hindlimb unloading abolishes disuse bone loss and maintains muscle strength. *J Bone Miner Res* 25: 564-574, 2010.

*Baek K,* **Bloomfield SA**. Beta-adrenergic blockade and leptin replacement effectively mitigate disuse bone loss*. J Bone Miner Res* 24: 792-799, 2009.

Prisby RD, *Swift JM,*  **Bloomfield SA,** Hogan HA, Delp MD. Alterations in bone mass, geometry and mechanical properties in the fatty Zucker rat model for Type II diabetes. *J Endocrinology* 199:379-388, 2008.

*Baek K, Barlow AA,* *Allen MR*, **Bloomfield SA.** Food restriction and simulated microgravity: effects on bone and serum leptin. *J Appl Physiol* 104: 1086-1093, 2008.

Wallace JM, Rajachar RM, *Allen MR*, **Bloomfield SA,** Robey PG, Young MF, Kohn DH. Exercise-induced changes in the cortical bone of growing mice are bone- and gender-specific. *Bone* 40: 1120-1127, 2007.

Kim W-K, Donalson LM, **Bloomfield SA**, Hogan HA, Kubena LF, Nisbet DJ, Ricke SC. Molt performance and bone density of cortical, medullary, and cancellous bone in laying hens during feed restriction or alfalfa-based feed molt. *Poultry Sci* 86:1821-1830, 2007.

*Allen MR*, Hogan HA, **Bloomfield SA.** Differential bone and muscle recovery following hindlimb unloading in skeletally mature rats. *J Musculoskel Neuron Interact* 6: 217-225, 2006.

Wallace JM, Rajachar RM, Chen X-D, Shi S, *Allen MR*, **Bloomfield SA,** Les CM, Robey PG, Young MF, Kohn DH. The phenotype of biglycan-deficient mice is bone- and gender-specific. *Bone* 39: 106-116, 2006.

*Hubal MJ*, Ingalls CP, *Allen MR*, Wenke JC, Hogan HA, **Bloomfield SA.** Effects of eccentric exercise training on cortical bone and muscle strength in the estrogen deficient mouse. *J Appl Physiol 98*: 1674-1681, 2005.

**Bloomfield SA.** Contributions of physical activity to bone health over the lifespan. *Top Geriatric Rehab* 21: 68-76, 2005.

Kohrt WM, **Bloomfield SA,** Little KD, Nelson ME, Yingling VR. American College of Sports Medicine Position Stand: Physical Activity and Bone Health. *Med Sci Sports Exerc* 36:1985-1996, 2004.

Warren GL, Stallone JL, *Allen MR*, **Bloomfield SA.** Functional recovery of the plantarflexor group after hindlimb unloading in the rat*. Eur J Appl Physiol* 93: 130-138, 2004.

Yao Z, Lafage-Proust M-H, Plouet J, **Bloomfield SA,** Alexandre C, Vico L. Increase of both angiogenesis and bone mass in response to exercise depends on VEGF. *J Bone Miner Res* 19: 1471-1480, 2004.

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**Symposium Proceedings, Technical Research Reports, Book Reviews (n=9)**

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**Bloomfield SA.** Summary---Bone in Microgravity Environments: “Houston, we have a problem” *J Musculoskelet Neuronal Interact* 6(4): 329-330, 2006.

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**Published Abstracts (last 5 years)** *(SB graduate students/trainees in italics)*

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and sclerostin in a rodent model of spinal cord injury correlates with altered bone turnover.

*J Bone Miner Res* 31: Suppl 1, Sept 2017. Accessed on 6/18/2018 at

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Elizondo J, Black J, Kosniewski J, Brezicha J, Lenfest S, Bloomfield S, Allen M, Hogan H.

Bisphosphonate pre-treatments protect cancellous bone density and strength in unloaded

adult rats. *J Bone Miner Res* 31: Suppl 1, Sept 2017. Accessed on 6/18/2018 at

<http://www.asbmr.org/education/AbstractDetail?aid=ca017870-9d32-4953-9cf9-b898698feb69>.

*Metzger CE, Junior MJM,* Brezicha JE, Hogan HA, Bloomfield SA. Local adaptations of osteocyte

proteins to increased and decreased mechanical forces correlate with osteoblast levels*.*

*Med Sci Sports Exerc 2017; 49(5S): 394-395.*

Metzger C, Narayanan A, Zawieja D, Bloomfield S. Elevated bone resorption and pro-inflammatory cytokines are mitigated by a soy protein diet in a rodent model of inflammatory bowel disease. *J Bone Miner Res* 31: Suppl 1, Sept 2016. Accessed on 12/5/2016 at <http://www.asbmr.org/education/AbstractDetail?aid=17254952-7ebb-43cc-b4fd-09f59fd7784c>

Bokhari R, Metzger C, Allen M, Lenfest S, Kosniewski J, Seidel D, Hogan H, Turner N, Zwart S, Bloomfield S. Sex-specific cellular differences in mouse bone with moderate iron elevations leads to differences in mechanical properties. *J Bone Miner Res* 31: Suppl 1, Sept 2016. Accessed on 12/5/2016 at <http://www.asbmr.org/education/AbstractDetail?aid=e6933838-e8c4-4210-8b2d-630a309f3d16>

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Narayanan A, *Metzger CE,* Brezicha JE, Lenfest SE, Bloomfield SA, Hogan HA, Zawieja DC, Comparative Analysis of Gastrointestinal and Bone Inflammation in Hindlimb Unloading, *FASEB J* 30(1), Suppl 762.5, 2016.

*Metzger CE,* Brezicha JE, Lenfest SE, Hogan HA, Bloomfield SA. Beyond Sclerostin: Influence of Disuse and Recovery from Disuse on Mechanosensitive Osteocyte Proteins*. Med Sci Sports Exerc. Suppl,* 2016.

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Brezicha JE, Lenfest SE, Koskniewski JL, Leach C, Black JM, Bloomfield SA, Allen MR, Hogan HA. Pre-treatment with bisphosphonates mitigates bone loss at the tibia metaphysis and femoral neck during subsequent hindlimb unloading and recovery. *J Bone Miner Res* 30 (Suppl 1), 2015. Available at <http://www.asbmr.org/education/AbstractDetail?aid=87c081d8-334f-476c-9095-af12d27f5d01>. Accessed 23 Jan 2016.

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*Metzger CE*, Narayanan A, *AzZani T*, Cromer W, Zawieja D, Bloomfield SA. Inflammatory

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*Metzger CE, Swift SN, Baek K*, De Souza MJ, Bloomfield SA.Fat and lean mass predict total

body bone mineral content during energy restriction with exercise. *Med Sci Sports Exerc* 47 (5, Suppl): 2015.

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Bisphosphonate treatment during an initial unloading period provides beneficial effects to mechanical and densitometric properties of bone for a second unloading. *IBMS BoneKEy* 12,1–10; 10 April 2015. Available at <http://www.nature.com/bonekey/knowledgeenvironment/2015/150410/bonekey201540/pdf/bonekey201540.pdf>. Accessed 23 Jan 2016.

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*Boudreaux R*, Brezicha J, Lenfest S, Narayanan A, Bloomfield SA, Hogan HA. Sequential

impact loading and zoledronic acid pre-treatments protect against disuse-induced bone

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*Metzger CE, Lee TV, McBurnett PK, Riechman SE, Bloomfield SA.* Does osteocyte sclerostin response to unloading and exercise vary across bone compartments? *Med Sci Sports Exerc* 46 (5, Suppl): xxx, 2014.

***Metzger CE, Camp KA, Swift SN,* De Souza MJ, *Yuen EP,* *Lima F* , Bloomfield SA.** Can lost

bone be recovered after 12 weeks of reduced energy availability? *J Bone Miner Res* 28

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*Shirazi-Fard Y,* Kwaczala AT, Judex S, Bloomfield SA, Hogan HA*.* Exercise during recovery

between two hindlimb unloading exposures enhances cancellous bone micro-architecture and mechanical properties. *J Bone Miner Res* 28 (Suppl 1), 2013. Available at <http://www.asbmr.org/asbmr-2013-abstract-detail?aid=524a9788-400f-4ccd-9d61-d048383f8e08>. Accessed 11 Nov 2013.

*Boudreaux R, Elmer KA, Metzger CE, Macias BR, Allen MR, Braby LA, Hogan HA,* Bloomfield

SA. Radiation exposure prevents recovery of cancellous bone in mouse lumbar vertebrae following partial weight bearing. *J Bone Miner Res* 28 (Suppl 1), 2013. Available at

<http://www.asbmr.org/asbmr-2013-abstract-detail?aid=f29b33be-00b0-47b9-87fb-8af8b382b9df>. Accessed 11 Nov 2013.

*Elmer KA, Boudreaux RB, Metzger CE,* Bloomfield SA. Simulated galactic cosmic radiation

exposure impairs mouse vertebral bone adaptations to exercise during recovery from

partial weightbearing. *Int. J Exerc Sci*. Vol. 4, 2013.

*Hedges MM, Metzger CE*, Lee RV, Reichman SE, Bloomfield SA. Resistance exercise during

hindlimb unloading in rats mitigates disuse-induced bone loss. *Int. J Exerc Sci*. Vol. 4, 2013.

**RESEARCH PRESENTATIONS (last 5 years + invited)** *(Invited presentations SB presented are noted [n=28 ]; co-authors who are my graduate students/trainees noted in italics)*

**International And National**

*Metzger CE,* Narayanan SA, Zawieja DC, **Bloomfield SA**. Exogenous administration of irisin

during chronic TNBS-induced gut inflammation reverses inflammation-induced alterations

in bone turnover. Poster presentation at Crohn’s and Colitis Congress, Las Vegas, NV;

January 2018.

Narayanan SA*, Metzger CE*, **Bloomfield SA**, Zawieja DC. Inflammation-associated colonic

lymphatic architecture disruption is ameliorated by irisin treatment. Poster presentation at

Crohn’s and Colitis Congress, Las Vegas, NV, January 2018

*Metzger CE, Anderson AM, Igbinigie N*, **Bloomfield SA**. Recovery of hindlimb bone mass

following 90 days of hindlimb unloading. Poster presentation at the NASA Human

Research Program Investigator Workshop, Galveston, TX; January, 2018.

Allaway HCM, Bokhari RS, Seidel DV, Wahl KL, Turner ND, Ford JR, Gaddy D, Suva L,

**Bloomfield SA.** Potential mitigation of acute galactic cosmic radiation-induced bone loss

by a diet high in omega-3 fatty acids. Poster presentation at the NASA Human Research

Program Investigator Workshop, Galveston, TX; January, 2018.

**Bloomfield SA.** Partial weightbearing: Bad to the Bone (and Muscle)! American Society of

Gravitational and Space Research, Seattle, WA; October, 2017 **(invited**)

*Bokhari R, Metzger CE,* Allen MR, **Bloomfield SA**. 75 minutes of daily weightbearing can

prevent hindlimb unloading-induced cancellous bone loss. Poster presentation at the

American Society of Gravitational and Space Research, Seattle, WA; October, 2017.

*Slavinsky A,* *Bokhari R,* Ford JR, and **Bloomfield SA**. Positive Impact of 70 Days of Very Low

Dose-Rate Radiation Exposure on Lean Mass and Total Body BMD in Older Mice. Poster

presentation at the American Society of Gravitational and Space Research, Seattle, WA;

October, 2017. [Won first prize in Graduate Student Poster Competition]

*Bokhari RS,* Sturgell E, Allen MR, Ford J, **Bloomfield SA.** Does Continuous Low Dose-rate

Radiation Exposure Alter Bone Response to Simulated Microgravity? Poster presentation at

the Radiation Research Society, Cancun, Mexico; October, 2017.

*Metzger CE,* Gong S, Aceves M, Hook MA, **Bloomfield SA.** Elevated osteocyte TNF-α, IL-6,

and sclerostin in a rodent model of spinal cord injury correlates with altered bone turnover.

Poster presentation at American Society of Bone and Mineral Research Annual Meeting,

Denver, CO, September, 2017.

Lenfest SE, Kosniewski JL, Looper AL, Brezicha JE, *Metzger CE,* **Bloomfield SA,** Hogan HA.

Voluntary jumping exercise in in rats prior to unloading prevent unloading-related bone loss.

Poster presentation at ASBMR Annual Meeting, Denver, CO, September 2017.

Elizondo J, Black J, Kosniewski J, Brezicha J, Lenfest S, Bloomfield S, Allen M, Hogan H.

Bisphosphonate pre-treatments protect cancellous bone density and strength in unloaded

adult rats.Poster presentation at ASBMR Annual Meeting, Denver, CO, September 2017.

**Bloomfield SA,** *Metzger CE, Bokhari RS, Allaway HCM*, Seidel DR, Turner ND, Allen MR,

Zwart SR. Positive adaptations in cancellous microarchitecture with moderate iron overload,

even in hindlimb unloaded mice, are associated with elevated serum hepcidin. Poster

presentation at the Orthopaedic Research Society Musculoskeletal Biology Workshop, Sun

Valley, ID; August, 2017.

*Metzger CE, Junior MJM,* Brezicha JE, Hogan HA, Bloomfield SA. Local adaptations of osteocyte

proteins to increased and decreased mechanical forces correlate with osteoblast levels. Med Sci Sports Exerc. 2017; 49(5S): 394-395. Poster presentation at American College of Sports Medicine [ACSM] Annual Meeting, Denver, CO, June 2017.

*Metzger CE, Anderson AM*, Bloomfield SA. Sex-specific differences in bone loss and sclerostin

prevalence in rodent hindlimb unloading. Poster presentation at NASA Human Research

Program Investigator Workshop, Galveston, TX; January, 2017

*Bokhari RS, Metzger CE*, Allen MR, **Bloomfield SA.** Exercise benefits during hindlimb unloading extend beyond mechanical loading alone. Poster presentation at the NASA Human Research Program Investigator Workshop, Galveston, TX; January, 2017.

Narayanan A, Henderson S, *Metzger C, Bokhari R*, **Bloomfield S**, Newell-Rogers K,

Zawieja D. An investigation of systemic versus local inflammation in hindlimb

unloading.  Poster presentation at the NASA Human Research Program Investigator

Workshop, Galveston, TX; January, 2017.

Narayanan A, Henderson S, *Metzger C, Bokhari R*, **Bloomfield S**, Newell-Rogers K, Zawieja

D.  An investigation of systemic versus local inflammation in hindlimb unloading.  Poster and oral presentations at the American Society for Gravitational and Space Research, Cleveland, OH; October, 2016.

*Bokhari RS, Metzger CE,* Allen MR, Black J, Boudreaux R, Hogan HA, Braby L, **Bloomfield SA**.

Bone response to low dose radiation, partial weight bearing and subsequent recovery with and without exercise training. Poster presentation at the Radiation Research Society Annual Meeting, Big Island, HI; October, 2016.

*Metzger C*, Narayanan A, Zawieja D, **Bloomfield S**. Elevated bone resorption and pro-

inflammatory cytokines are mitigated by a soy protein diet in a rodent model of inflammatory bowel disease. Poster presentation at the American Society for Bone and Mineral Research, Atlanta GA; September, 2016.

*Bokhari R, Metzger C*, Allen M, Lenfest S, Kosniewski J, Seidel D, Hogan H, Turner N, Zwart S, **Bloomfield S.** Sex-specific cellular differences in mouse bone with moderate iron elevations leads to differences in mechanical properties. Poster presentation at the American Society for Bone and Mineral Research, Atlanta GA; September, 2016.

Lenfest S, Kosniewski J, Looper A, Brezicha J, Black J, **Bloomfield S**, Fluckey J, Hogan H. Initital results for a new positive reinforcement voluntary jumping exercise in rats show enhanced bone parameters. Poster presentation at the American Society for Bone and Mineral Research, Atlanta GA; September, 2016.

Brezicha JE, Black JM, *Metzger C,* Lenfest S, Kosniewski J, **Bloomfield S**, Allen M, Hogan H. Bisphosphonate pre-treatments enhance trabecular bone architecture during unloading and reambulation despite lower resorption and formation. Plenary Poster presentation at the American Society for Bone and Mineral Research, Atlanta GA; September, 2016.

Bloomfield, SA. Advancing the muscle-bone signaling story. Oral presentation in symposium I chaired (“Muscle/Bone Interactions: Next Steps”) at the Orthopaedic Research Society Sun Valley Musculoskeletal Workshop, Sun Valley, ID; August, 2016. ***(Invited)***

*Metzger CE*, Narayanan A, Zawieja DC, Bloomfield SA. Exploring the role of Interleukin-18 in bone loss associated with chronic inflammatory bowel disease. Oral presentation at 6th International Osteoimmunology Conference, June 2016.

Metzger CE, Brezicha JE, Lenfest SE, Hogan HA, Bloomfield SA. Beyond Sclerostin: Influence of Disuse and Recovery from Disuse on Mechanosensitive Osteocyte Proteins. Thematic poster presentation at American College of Sports Medicine; May 2016.

Narayanan A, Metzger CE, Brezicha JE, Lenfest SE, Bloomfield SA, Hogan HA, Zawieja DC. Comparative Analysis of Gastrointestinal and Bone Inflammation in Hindlimb Unloading, Poster presentation Experimental Biology, San Diego, CA; April, 2016

*Metzger CE,* Bloomfield SA. Altered osteocyte sclerostin with 90 days of hindlimb unloading.

Poster Presentation at NASA Human Research Program Investigators' Workshop, Galveston, TX; February, 2016

Lenfest SE, *Metzger CE,* Elizondo JP, Bloomfield SA, Allen MR, Hogan HA. Comparison of Alendronate and Zoledronate Effects on Bone Turnover and Mechanical Properties for Two Successive Periods of Simulated Microgravity. Poster Presentation at NASA Human Research Program Investigators' Workshop, Galveston, TX; February, 2016.

Brezicha JE, Lenfest SE, Koskniewski JL, Leach C, Black JM, Allen MR, Bloomfield SA, Hogan HA. Pre-Treatment with Bisphosphonates Mitigates Bone Loss at the Tibia Metaphysis and Femoral Neck During Subsequent Hindlimb Unloading and Recovery. Poster presentation NASA Human Research Program Investigators' Workshop, Galveston, TX; February, 2016.

*Bokhari RS, Metzger CE,* Allen MR, Lenfest SE, Seidel DV, Hogan HA, Turner ND, Zwart SR, Bloomfield SA. Moderate Elevations in Iron Stores Improve Skeletal Properties in Cage-Control and Hindlimb Unloaded Mice. Poster Presentation at NASA Human Research Program Investigators' Workshop, Galveston, TX; February, 2016.

Narayanan A, *Metzger CE,* Brezicha JE, Lenfest SE, Cromer WE, Bloomfield SA, Hogan HA, Zawieja DC. Comparative Analysis of Gastrointestinal and Bone Inflammation in Hindlimb Unloading and After Ambulatory Recovery. Poster Presentation at NASA Human Research Program Investigators' Workshop, Galveston, TX; February, 2016.

Seawright JW, Colletta A, *Boudreaux RD, Metzger CE*, Shimkus KL, Fluckey JD, Hogan HA, Bloomfield SA, Braby LA, Woodman CR. Aortic MnSOD and eNOS Protein Content are Increased in 56Fe Irradiated and Partially Loaded Mice Following Resistance Exercise. Poster Presentation at NASA Human Research Program Investigators' Workshop, Galveston, TX; February, 2016.

*Mantri AV, Junior MJ,* Bloomfield SA. Modulation of bone response to disuse by simulated oral contraceptive use. Poster presentation at the 2016 Human Research Program Investigators' Workshop (NASA), Galveston, TX; February, 2016. [AV Mantri won 2nd place in the David Watson NSBRI Poster Competition for all trainees.]

Brezicha JE, Lenfest SE, Koskniewski JL, Leach C, Black JM, **Bloomfield SA,** Allen MR, Hogan

HA. Comparison of alendronate and risedronate as pre-treatments for simulated microgravity and return to weightbearing. Oral presentation at American Society for Gravitational and Space Research; Alexandria, VA; November, 2015.

**Bloomfield SA**, *Bokhari R, Metzger CE*, Allen MR, Lenfest S, Hogan HA, Turner ND, Zwart SR.

Moderate elevations in iron stores improve skeletal integrity in weightbearing and hindlimb-unloaded mice. Oral presentation at American Society for Gravitational and Space Research; Alexandria, VA; November, 2015. ***(Invited)***

Narayanan A, Brezicha J, Lenfest SE, Cromer W, **Bloomfield S,** Hogan H, Zawieja D.

Ambulatory recovery after simulated microgravity shows persistent gastrointestinal inflammation. Poster presentation at American Society for Gravitational and Space Research; Alexandria, VA; November, 2015.

Narayanan A, *Metzger C,* Brezicha J, Lenfest SE, Bloomfield S, Hogan H, Zawieja D. Comparative analysis of gastrointestinal and bone inflammation in hindlimb unloading. Oral presentation at American Society for Gravitational and Space Research; Alexandria, VA; November, 2015.

Brezicha JE, Lenfest SE, Koskniewski JL, Leach C, Black JM, **Bloomfield SA**, Allen MR, Hogan HA. Pre-treatment with bisphosphonates mitigates bone loss at the tibia metaphysis and femoral neck during subsequent hindlimb unloading and recovery. Poster presentation at the 36th Annual Meeting of the American Society of Bone & Mineral Research, Seattle, WA; October, 2015.

Lenfest SE, *Metzger CE*, Elizondo JP, **Bloomfield SA**, Allen MR, Hogan HA. Comparison of alendronate and zoledronate effects on bone turnover and mechanical properties for two successive periods of simulated microgravity unloading. Poster presentation at the 36th Annual Meeting of the American Society of Bone & Mineral Research, Seattle, WA; October, 2015.

*Metzger CE*, Narayanan A, *AzZani T*, Cromer W, Zawieja D, **Bloomfield SA**. Inflammatory

bowel disease alters osteocyte protein levels controlling bone turnover. Poster presentation at the 36th Annual Meeting of the American Society of Bone & Mineral Research, Seattle, WA; October, 2015.

*Bokhari RB, Metzger CE*, Allen MR, Lenfest S, Hogan HA, Turner ND, Zwart S, **Bloomfield SA.** Moderate elevations in iron stores improves skeletal integrity in mice even during disuse. Poster presentation at the 36th Annual Meeting of the American Society of Bone & Mineral Research, Seattle, WA; October, 2015.

Seawright JW, Coletta A, *Boudreaux RD, Metzger CE*, Shimkus KL, Fluckey JD, Hogan HA,

**Bloomfield SA**, Braby LA, Woodman CR. Resistance exercise training increases MnSOD content in mouse aorta following 56Fe irradiation and partial weight bearing. Poster presentation at Radiation Research Society, Weston, FL; September, 2015.

*Metzger CE, Swift SN, Baek K*, De Souza MJ, **Bloomfield SA.** Fat and lean mass predict

total body bone mineral content during energy restriction with exercise. Oral presentation in Highlighted Symposium “Nutrition for Bone Health in Athletes” at annual meeting of the American College of Sports Medicine, San Diego, CA; May, 2015. ***(Invited)***

Lenfest SE, Brezicha JE, Narayanan A, Reyna W, Bloomfield SA, Allen MR, Hogan HA.

Bisphosphonate treatment during an initial unloading period provides beneficial effects to mechanical and densitometric properties of bone for a second unloading. Poster Presentation at 4th Joint Meeting of the European Calcified Tissue Society and the International Bone and Mineral Society, Rotterdam, The Netherlands; April, 2015.

*Mantri AV*, **Bloomfield SA.** Developing a model for modulation of microgravity-induced

bone loss by oral contraceptive use. Poster presentation at NASA Human Research Program Investigator Workshop; Galveston, TX; January, 2015.

Lenfest SE, Brezicha JE, Narayanan A, Reyna W, **Bloomfield SA**, Allen MR, Hogan HA.

Comparison of Protective Effects of Alendronate and Zoledronic Acid for Two Successive Unloading Exposures. Poster Presentation at NASA Human Research Program Investigators' Workshop, Galveston, TX; January, 2015.

Brezicha JE, Lenfest SE, Narayanan A, Kosniewski J, Leach C, **Bloomfield SA,** Allen MR,

Hogan HA. Pre-Treatment with Bisphosphonates Mitigates Bone Loss during Subsequent Hindlimb Unloading. Poster Presentation at NASA Human Research Program Investigators' Workshop, Galveston, TX; January, 2015.

*Metzger CE,* Seidel DV, Allen MR, Hogan HA, Turner ND, Swart SR, **Bloomfield SA**. Modu-

lation of Bone Response to Long-Term Disuse by Iron Overload. Poster Presentation at NASA Human Research Program Investigators' Workshop, Galveston, TX; January, 2015.

Shimkus KL, Lee Y, Savio EM, Wiggs MP, *Macias BR*, Deaver JW, Hord JM, *Lima F, Shirazi-Fard*

*Y,* Green ES, Braby LA, Hogan HA, Lawler JM, **Bloomfield SA**, Fluckey JD. Radiation Exacerbates Alterations to Skeletal Muscle Morphology Subjected to Simulated Lunar Environment. Poster Presentation at NASA Human Research Program Investigators' Workshop, Galveston, TX; January, 2015.

Narayanan A, *Boudreaux RD*, Lenfest SE, Hogan HA, **Bloomfield SA,** Zawieja DC, Cromer

W. Simulated Microgravity Effects on Lymphatic Associated Innate Immune Cells and the Development of Gastrointestinal Inflammation. Poster Presentation at NASA Human Research Program Investigators' Workshop, Galveston, TX; January, 2015.

Lenfest SE, Brezicha JE, *Boudreaux RD*, Schaefer CM, **Bloomfield SA,** Allen MR, Hogan HA.

Benefits of Bisphosphonate Treatment During an Initial Unloading Period Extend to a Second Unloading Period. Poster presentation at 30th Annual Meeting of American Society for Gravitational and Space Research, Pasadena, CA; October, 2014.

Narayanan A, *Boudreaux RD,* Lenfest SE, Hogan HA, **Bloomfield SA,** Zaweja DC,

Cromer W. Simulated Microgravity in Rodents Induces Gastrointestinal Changes and

Inflammation, Oral Presentation at 30th Annual Meeting of American Society for

Gravitational and Space Research, Pasadena, CA; October, 2014.

*Metzger C, Junior M, Boudreaux R*, Perticone J, Hogan HA, **Bloomfield SA**. Zolendronic

acid administered before disuse conserves cancellous bone microarchitecture by suppressing turnover. Poster presentation at the 36th Annual Meeting of the American Society of Bone & Mineral Research, Houston, TX; September, 2014.

*Boudreaux R*, Brezicha J, Lenfest S, Narayanan A, **Bloomfield SA**, Hogan HA. Sequential

impact loading and zoledronic acid pre-treatments protect against disuse-induced bone

strength loss in the rat femoral neck. *Plenary* poster presentation (top 15% of abstracts

submitted) at the 36th Annual Meeting of the American Society of Bone & Mineral

Research, Houston, TX; September, 2014.

Lenfest S, Brezicha J, *Boudreaux R*, Schaefer C, **Bloomfield SA,** Allen MR, Hogan HA.

Bisphosphonate treatment during an initial unloading period also protects against bone

loss for a second unloading. Poster presentation at the 36th Annual Meeting of the

American Society of Bone & Mineral Research, Houston, TX; September, 2014.

**Bloomfield SA.** Nutritional modifiers of disuse bone loss. Oral slide talk to the Nutrition

Working Group, American Society of Bone & Mineral Research. Houston, TX; September, 2014. ***(Invited)***

*Metzger CE,* Lee TV, *McBurnett PK*, Riechman SE, **Bloomfield SA**. Does osteocyte

sclerostin response to unloading and exercise vary across bone compartments? Poster presentation at Annual Meeting of the American College of Sports Medicine, Orlando, FL; June, 2014.

**Bloomfield SA.** Iron overload and microgravity-induced bone loss: from mice to men. Oral

presentation in symposium (served as chair) “Beyond Calcium: Nutritional Modulators of the Bone Response to Exercise/Disuse” , Annual Meeting of the American College of Sports Medicine, Orlando, FL; May, 2014. ***(Invited)***

**Bloomfield SA.** Impact of the space environment on bone integrity. Seminar to School

of Biomedical Engineering Graduate Seminar, Colorado State Univ, Oct 2013. ***(Invited)***

***Metzger CE, Camp KA, Swift SN,* De Souza MJ, *Yuen EP,* *Lima F* , Bloomfield SA.** Can lost

bone be recovered after 12 weeks of reduced energy availability? Poster presentation at 35th Annual Meeting of the American Society for Bone and Mineral Research, Baltimore, MD; October, 2013.

*Shirazi-Fard Y,* Kwaczala AT, Judex S, Bloomfield SA, Hogan HA*.* Exercise during recovery

between two hindlimb unloading exposures enhances cancellous bone micro-architecture and mechanical properties. Poster presentation at 35th Annual Meeting of the American Society for Bone and Mineral Research, Baltimore, MD; October, 2013; won Presidential Poster Award.

*Boudreaux R, Elmer KA, Metzger CE, Macias BR, Allen MR, Braby LA, Hogan HA,* Bloomfield

SA. Radiation exposure prevents recovery of cancellous bone in mouse lumbar vertebrae following partial weight bearing. Poster presentation at 35th Annual Meeting of the American Society for Bone and Mineral Research, Baltimore, MD; October, 2013.

**Bloomfield SA.** Disuse-induced loss of muscle/bone mass: (always) predictive of loss of

function? Oral presentation at American Society of Bone & Mineral Research Topical Meeting on Bone & Skeletal Muscle Interactions. Kansas City, MO; July 2012 ***(Invited)***

**Bloomfield SA.** Impact of the space environment on bone: Lessons for aging Joe and Jane

on Earth. Seminar to Health & Exercise Science Graduate Physiology Program, Colorado State University, Feb 2012 ***(Invited)***

**Bloomfield SA.** Differential response of skeletal muscle and bone to unloading. Oral

presentation in symposium “Mechanotransduction in Bone & Muscle” symposium, American College of Sports Medicine, Denver, CO; June, 2011. ***(Invited)***

**Bloomfield SA.** Interactions of the sympathetic nervous system and leptin in mediating energy restriction impact on bone. Oral talk at Integrative Physiology of Exercise meeting (ACSM/ APS), Miami, FL; September, 2010. ***(Invited, served as symposium chair)***

**Bloomfield SA**. Weightbearing in simulated 1/6th and 1/3rd gravity does not prevent cancellous bone loss. Oral presentation to Dept of Aeronautics and Astronautics, Massachusetts Institute of Technology, Cambridge MA, May, 2010. ***(Invited)***

**Bloomfield SA.** Weightbearing in simulated 1/6th and 1/3rd gravity does not prevent cancellous bone loss. Oral presentation at the NASA/NSBRI Investigator Workshop, Houston, TX; February, 2010. ***(Invited)***

**Bloomfield SA.** Mitigating disuse bone loss: role of exercise and the sympathetic nervous system. Oral seminar presentation to Seoul National University Dental School; January, 2010. ***(Invited--international)***

**Bloomfield SA**. Energy restriction and bone loss during spaceflight: What’s the connection? Oral symposium presentation: International Society for Gravitational Physiology/European Space Agency Joint Meeting, Angers, France; June, 2008. ***(Invited-international)***

**Bloomfield SA.** Can exercise alonemitigate bone loss with spaceflight? Translating animal data to in-flight prescriptions for astronauts. Oral symposium presentation: International Society for Gravitational Physiology, San Antonio, TX; April, 2007. ***(Invited)***

**Bloomfield SA**. Bone health in exercising females: impact of calcium, protein, and energy. Pennsylvania State University Noll Laboratory Graduate Seminar, State College, PA; November, 2006. ***(Invited)***

**Bloomfield SA.** Bone health and “swimming plus”. Oral presentation, Sports Medicine Mini-Conference, FINA World Masters Championships, Stanford University, Palo Alto, CA; August, 2006. ***(Invited)***

**Bloomfield SA.**Does altered blood flow to bone in microgravity impact on mechano-transduction? Oral symposium presentation: 35th International Sun Valley Workshop on Skeletal Tissue Biology, Sun Valley, ID; August, 2006.***(Invited, served as symposium chair)***

**Bloomfield SA.** The muscle-bone response to disuse: An integrative physiology approach. Advances in Mineral Metabolism Annual Meeting, Snowmass, CO; April, 2006. ***[Invited]***

**Bloomfield SA.** What are the risks to bone health during missions to the Moon and Mars? *Bone Loss During Spaceflight Symposium*, Cleveland Clinic Foundation, OH; June, 2005. ***(Invited)***

**Bloomfield SA,** *Allen MR*, Lemmon H, Hogan HA. Cancellous bone volume is restored by intermittent PTH after mechanical unloading. Oral presentation in Featured Science Symposium “Musculoskeletal Challenges to Long-Duration Spaceflight”, American College of Sports Medicine, Nashville, TN; June, 2005. ***(Invited)***

**Bloomfield SA.** How animal research has informed the new ACSM position stand on bone health and osteoporosis. Oral slide presentation at Bone Health Summit, University of Toronto, Toronto, CA; May, 2004. ***(Invited)***

**Bloomfield SA.** Differential recovery of bone and muscle after prolonged disuse: do we need a new strategy? Oral presentation to Dept. of Cellular Biology and Anatomy, Medical College of Georgia, Augusta, GA; January, 2004. ***(Invited)***

**Bloomfield SA**. Bone loss with spaceflight: mechanisms and counter-measures. Oral presentation: Central States Chapter of American College of Sports Medicine, Kansas City, KA; October, 2000. ***(Invited)***

**Bloomfield SA.** Cellular and molecular aspects of the bone response to altered loading. Oral presentation at the 11th International Conference on the Biochemistry of Exercise, Little Rock, AR; June, 2000. ***(Invited)***

**Bloomfield SA.** Muscle-bone interactions: evidence from animal models. Oral symposium presentation at the Annual meeting of the American College of Sports Medicine, Seattle, WA; June, 1999. ***(Invited)***

**Bloomfield SA.** Bone loss with disuse and microgravity: can it be prevented? Oral seminar presentation to Kinesiology Department, Pennsylvania State University, State College, PA; November, 1998. ***(Invited)***

**Bloomfield SA**. Endocrine and mechanical loading effects on bone. Oral seminar presentation to Noll Laboratory, Pennsylvania State Univ., State College, PA; November, 1998. ***(Invited)***

**Bloomfield SA**. Exercise in the older adult: bone, ligament and tendon. Oral presentation at the Gatorade Sport Science Institute*,* Cancun, Mexico; June, 1994. ***(Invited)***

**Bloomfield SA**. Musculoskeletal consequences of deconditioning. Oral presentation for symposium Physiological Consequences of Bedrest Deconditioning at the Annual Meeting of the American College of Sports Medicine, Seattle, WA; June, 1993. ***(Invited)***

**Regional And State (last 5 years + invited)** (*Invited presentations noted, n=11; co-authors who are my graduate student advisees are noted in italics)*

*Anderson AM, Metzger CE*, Narayanan SA, Bloomfield SA. Irisin treatment during chronic inflammatory bowel disease in a rodent model improves bone formation rate. Poster presentation at Texas Chapter of the American College of Sports Medicine, Austin, TX; March, 2018.

*Igbinigie NA, Metzger CE,* Bloomfield SA. Recovery of hindlimb bone mass following prolonged disuse. Poster presentation at Texas Chapter of the American College of Sports Medicine, Austin, TX; March, 2018.

*Anderson AM, Metzger CE,* Bloomfield SA. Disuse–induced bone loss is impacted by age. Poster presentation at Texas Chapter of the American College of Sports Medicine, Austin, TX; February, 2017.

*Junior MJ, Metzger CM,* Lenfest SE, *Boudreaux RD*, Hogan HA, Bloomfield SA.Impact of anti-resorptive treatment on recovery of bone after disuse. Poster presentation at Texas Chapter of the American College of Sports Medicine, College Station, TX; March, 2016 (won 1st in UG Poster category)

*Junior MJ*. Impact of Anti-Resorptive Treatment on Recovery of Bone After Disuse.

Oral presentation at TAMU Student Research Week, College Station, TX; March, 2016.

Bloomfield SA. Nutritional modifiers of disuse bone loss. Oral slide talk to the TX Chapter ACSM meeting; February, 2015 ***(Invited)***

*Elmer KA, Boudreaux RB, Metzger CE,* Bloomfield SA. Simulated galactic cosmic radiation

exposure impairs mouse vertebral bone adaptations to exercise during recovery from partial weightbearing. Poster presentation at Texas Chapter of the American College of Sports Medicine, Austin, TX; March, 2013 (won 1st in UG Poster category) and Slide presentation at TAMU Student Research Week, College Station, TX; April, 2013 (won 1st in UG Life Science category)

*Hedges MM, Metzger CE*, Lee RV, Reichman SE, **Bloomfield SA.** Resistance exercise

during hindlimb unloading in rats mitigates disuse-induced bone loss. Poster presentation at Texas Chapter of the American College of Sports Medicine, Austin, TX; March, 2013.

**Bloomfield SA.** Lovely Bones, HZE Particles and Reduced g: Can the skeleton survive long-duration space travel? Oral presentation to Texas A&M Space Life Sciences seminar; College Station, TX; April, 2011. ***(Invited)***

**Bloomfield SA.** The Why, What, and How of Animal Models Simulating Spaceflight & Lunar Gravity’ Oral presentation for the NASA course “Research Using Ground-Based Spaceflight Models”, hosted at University of Houston. TX; March, 2011. ***(Invited)***

**Bloomfield SA**. Ground-based rodent models of simulated microgravity: what they teach us about bone loss with spaceflight. Oral presentation for the NASA course “Research Using Ground-Based Spaceflight Models”, hosted at University of Houston. TX; October, 2009. ***(Invited)***

**Bloomfield SA.** Mitigating bone loss with spaceflight: Mission impossible? Oral slide presentation at the Institute for Exercise and Environmental Medicine, Presbyterian Hospital, Dallas, TX; March, 2009. Texas ACSM Spring Lecture Tour ***(Invited***)

**Bloomfield SA.** Negative bone health effects of reduced energy intake: Does exercise change the picture? Oral slide presentations at UT-Medical Branch, Galveston, TX; Dept of Kinesiology, UT-Tyler, TX; and UT-Austin, Austin, TX; March, 2008. TX ACSM Spring Lecture Tour (***Invited***)

**Bloomfield SA**. Vascular physiology meets bone: exercise on earth and flying in space. Texas Chapter of the American College of Sports Medicine, Arlington, TX; February, 2005. ***(Invited)***

**Bloomfield SA**. Variable recovery of bone and muscle after prolonged spaceflight: do we need a new strategy? Oral presentation to NASA-Johnson Space Center Flight Surgeon’s Grand Rounds, Clear Lake, TX; October, 2003. ***(Invited)***

**Bloomfield SA**. Exercise for optimal health in an aging population: barbells or treadmills?

Oral slide presentation at the Texas ACSM Chapter meeting, Clear Lake, TX; February, 1999. ***(Invited)***

**Bloomfield SA**. Exercise in chronic disease states. Oral presentation at Grand Rounds, Gratiot Community Hospital, Alma, MI; March, 1983. ***(Invited)***

**PUBLIC SCHOLARSHIP/SOCIAL MEDIA**

Bloomfield SA. “The Secret to Strong Bones” featured within Kathy Smith Fitness newsletter (Podcast link found at - [https://mailchi.mp/kathysmith/new-science-on-staying-young?e=32e0a9b80e](https://urldefense.proofpoint.com/v2/url?u=https-3A__mailchi.mp_kathysmith_new-2Dscience-2Don-2Dstaying-2Dyoung-3Fe-3D32e0a9b80e&d=DwMFaQ&c=ODFT-G5SujMiGrKuoJJjVg&r=yd-cox-Bc9bb3wE2ANWXog&m=RSKUYRHVTgny8dKq0B-Jr7UFraBRlfYbwiytVSWVQvQ&s=rTPCAQZ88ukzttnre0fxkWMmBInL1Erh81rtRElbbf8&e=)) First released April, 2018.

**SERVICE PRESENTATIONS**

**National**

Bloomfield SA. Serendipity, integrative physiology and bone. Presented to Bone and Osteoporosis Network Exchange (BONE) Interest Group, ACSM Annual Meeting, Minneapolis, MN; May, 2018.

Bloomfield SA. Balancing career and family. Presented to Women’s Breakfast, ACSM. Annual Meeting, Minneapolis, MN; June,1995.

**State And Local**

Bloomfield SA. The Advisor/Student Relationship: Making it Work for You. [Numerous presentations 2013-present to Texas A&M graduate students in workshops]

Bloomfield SA. The “Other” Education: Beyond the Classroom. [Numerous presentations 2012- present in New Graduate Student Orientations, Texas A&M]

Bloomfield SA and Muenich J. The Who, When, Why and How of Choosing your Committee (and Getting a Degree Plan Filed!). [Numerous presentations 2013-present to Texas A&M graduate students in workshops]

Bloomfield SA. Changes in the Human Body during Spaceflight. 4th grade science classes, College Hills Elementary School, College Station, TX; May, 2001.

Bloomfield SA. Being a University Researcher in Physiology. Career Day, Oakwood Intermediate School, College Station, TX; May, 1998.

Bloomfield SA, *Dresser ET*. Bone Health, Spaceflight and the College of Education. Forsythe-

Heritage Forum, Texas A&M University, College Station, TX; April, 1998.

Bloomfield SA. Rats, Humans, and Flying Machines. Science, Technology and Youth Symposium, Texas A&M University, College Station, TX; March, 1998.

Bloomfield SA. Exercise and Health. Science-a-thon at Rock Prairie Elementary School, College Station, TX; March, 1997.

Bloomfield SA, Gray CA. Exercise science in undergraduate education. Invited presentation at the Annual Meeting of Michigan AAPHERD, Traverse City, MI; November, 1983.

**TEACHING EXPERIENCE**

Alma College (Michigan) (1982-1985)

Human Physiology Research Topics in Exercise Physiology\*

Exercise Testing and Prescription\* Substance Use and Abuse\*

Nutrition\* Biomechanics\*

Physiology of Exercise Rehabilitative and Therapeutic Exercise\*

*\*Courses new to Exercise Science & Health Management curriculum, developed by SB*

The University of Iowa (1992-1993)

Exercise Physiology

Advanced Exercise Physiology (graduate, team taught)

Texas A&M University (1993-present)

Physiology of Exercise

Exercise Evaluation and Prescription

Sport Nutrition

Fundamentals in Space Life Sciences (graduate-team taught)

Exercise for Clinical Populations (graduate)

Seminar: Bone Biology—Impact of Exercise and Nutrition (graduate)

Seminar: Mechanotransduction in Bone (graduate)

Seminar: Endocrine Adaptations to Exercise (graduate)

Seminar: Maximizing your Success (professional development; graduate)

**RESEARCH STUDENTS MENTORED (Lists degree received, awards received, first or**

**current position post-graduation; current students previous degree noted )**

*Elizabeth Dresser, M.S. in Kinesiology, 1994 (+ABD in Nutrition, 1998)*:Sales representative, Merck Pharmaceuticals, San Antonio, TX.

*Cynthia Inman, M.S. in Kinesiology, 1996***:** *Awards:* 1st place, M.S.-level Research Poster, TX Chapter—American College of Sports Medicine, 1996; Texas A&M Distinguished Research Thesis Award, 1996. *Currently:* Instructor in Dept. of Nutrition, Southern Illinois University; Edwardsville, IL.

*Xiao-hua (Lisa) Wu, M.S. in Kinesiology, 1997***:** *Currently:* Clinical Research Coordinator at Baylor College of Medicine GCRC, Houston, TX.

*Monica Hubal, M.S. in Kinesiology, 1999:* *Awards:* TX Chapter—American College of SportsMedicine, 1st place M.S. poster 2000; Texas A&M Distinguished Research Thesis Award, 2000. *Currently:* Post-doctoral Fellow (physiological genomics) with Dr. E. Hoffman, George Washington School of Medicine & Health Sciences, Washington D.C.

*Amanda Cochran, Allied Health Summer Intern Fellow, 2000:* [current position unknown]

*Alicia Currado Barlow, M.S., R.D. in Nutrition, 2001:**Currently:* Sales representative, Nestle’s Corporation.

*Matthew Allen, Ph.D. in Kinesiology, 2003***:** *Awards:* TX Chapter— American College of Sports Medicine 3rd place Ph.D. poster, 2000; TX Chapter— American College of Sports Medicine 2nd place Research Manuscript Award, 2001; Alice L. Jee Memorial Young Investigator Award, 31st International Sun Valley Workshop on Skeletal Tissue Biology, 2001;TX Chapter— American College of Sports Medicine 1st place, Ph.D. poster, 2002; NIH NRSA Post-Doctoral Fellowship, 2003. *Currently:* Assoc. Professor, Dept. of Anatomy/Cell Biology, University of Indiana School of Medicine, Indianapolis.

*Anna Rockman, B.S. in Kinesiology, 2003:**Awards:*TX Chapter—American College of Sports Medicine 1st place Undergraduate Poster.

*Amira Gerges, M.*S*. R.D. in Nutrition, 2004*: *Currently:* Clinical dietician, M.D. Anderson Cancer Center, Houston, TX.

*Jacky Lee, B.S in Information Management, 2006*: Honors Thesis Fellow, 2004-2005. Applying to medical school.

*Brent Vyvial, M.S. in Mechanical Engineering, 2006* (co-chair): Engineer with Stress Engineering Systems, Houston, TX.

*Justin Alcorn, M.S. in Mechanical Engineering, 2006* (co-chair): *Awards:* Houston Society for Engineering in Medicine and Biology Louis C. Sheppard Award for Best Poster, 2006. *Currently:* applying to medical school.

*Sabrina Macmanus, B.S. in Theatre, 2006:**Awards:*TX Chapter—American College of Sports Medicine 2nd place Undergraduate Poster. *Currently:* Enrolled in Graduate MS program at A&M in Sports Physiology.

*Lindsey Sumner, M.S. in Mechanical Engineering, 2007* (co-chair). *Currently:* Product Engineer, OriGen Biomedical, Austin, TX.

*Jay Jeffery, M.S. in Mechanical Engineering, 2007* (co-chair) *Currently:* Development Engineer with Fiberspar LinePipe LLC, Houston, TX.

*Kyunghwa Baek, Ph.D. in Nutrition, 2007*: *Awards:* TX Chapter—American College of Sports Medicine 1st place M.S. poster 2003; NIH Scholar Travel Award, Vitamin D and Health in the 21st. Century: Bone and Beyond 2003; Young Investigator Travel Award, Endocrinology & Metabolism Section, Amer. Physiology Society, 2004; Alice L.Jee Memorial Young Investigator Award, 35th International Sun Valley Workshop on Skeletal Tissue, 2005; Plenary Poster at 27th American Society of Bone and Mineral Research Meeting, 2005; Annual Research Symposium Scholarship, Texas A&M Intercollegiate Faculty of Nutrition; Oral Presentation at 29th American Society of Bone and Mineral Research Meeting, 2007; Texas A&M University Distinguished Graduate Research Award, 2008. *Currently:* Asst. Professor, Dept of Pharmacology, School of Dentistry, Gangneung-Wonju NationalUniversity, Gangwon-do, South Korea.

*Samantha Manning, B.S. in Biomedical Sciences, 2009*; *Awards*: TX Chapter—American College of Sports Medicine 1st place Undergraduate Poster. *Currently:* Employed in State of TX Forensic Laboratory.

*Matt Lucas, M.S. in Mechanical Engineering, 2009* (co-chair). *Currently:* Engineer with TriVector Services, Huntsville, AL.

*Scott Bouse, M.S. in Mechanical Engineering, 2009* (co-chair). *Currently*: Engineer with Stress Engineering Systems, Houston, TX.

*Mats Nilsson, M*.*S. Univ. Texas-El Paso*: Ph.D. student 2004-07 (switched to J. Fluckey HLKN lab Jan 2008). *Awards:* TX Chapter-- American College of Sports Medicine 1st place Ph.D. poster 2006 and 2007; Texas A&M Student Research Week, 2nd place, Oral Presentation in Life Sciences, Graduate Category, 2006; Alice L. Jee Memorial Young Investigator Award, 36th International Sun Valley Workshop on Skeletal Tissue Biology, 2006. *Currently:* Post-doctoral fellow with M. Tarnapolsky, University of Guelph, Ontario.

*Joshua Swift, Ph.D. in Kinesiology (2010)*: *Awards:* TX Chapter—American College of Sports Medicine 2nd place M.S. poster 2005, 1st place, M.S. poster, 2006, and Student Research Development Grant 2007; Texas A&M Student Research Week, 2nd place, Oral Presentation in Life Sciences, Graduate Category, 2005; Alice L. Jee Memorial Young Investigator Award, 36th International Sun Valley Workshop on Skeletal Tissue Biology, 2006; National Space Biomedical Research Institute Pre-Doctoral Fellowship, 2006-2008; Huffines Institute for Sports Medicine and Human Performance Student Research Grant, 2007; Plenary poster at 29th American Society of Bone and Mineral Research Meeting, 2007; US Navy Health Services Collegiate Program Scholarship, 2007-2009; TX Chapter— American College of Sports Medicine 1st place Research Manuscript Award, 2009; Oral Presentation at 31st American Society of Bone and Mineral Research Meeting, 2009; Texas A&M University Distinguished Graduate Research Award, 2010. *Currently:* Research Physiologist and US Navy Lt., Naval Medical Research Center, Silver Springs, MD

*Josh Kupke, M.S. in Biomedical Engineering (2010) (co-chair):* *Currently:* Quality Manager, Cardinal Health, Houston, TX.

*Sibyl Swift, M.S. Kinesiology (2007), Ph.D. in Nutrition (2010).*: *Awards:* College of Education

& Human Development Nominee for PEO Scholar Award, 2007; Alice L. Jee Memorial Young Investigator Award, 38th International Sun Valley Workshop on Skeletal Tissue Biology, 2008; Intercollegiate Faculty of Nutrition Scholarships (Summer, Fall 2008); TX Chapter— American College of Sports Medicine 4th place Research Manuscript Award and Student Research Development Grant, 2009; American Society of Nutrition Proctor & Gamble Student Research Award, EB 2009. *Currently:* Program Coordinator, Center for Food Safety and Applied Nutrition, U.S. Food and Drug Agency, Washington, DC

*Sarah Luna, B.S. in Kinesiology, B.S. in Nutrition (2009):* Undergraduate Honors Thesis Student, 2009-10. *Awards:* TX Chapter—American College of Sports Medicine, Mar 2009; 1st place Undergraduate Poster. *Currently*: Ph.D. student in Nutrition, Cornell Univ., NY.

*Stuart Solomon, B*.*S. in Biomedical Sciences (2011):* Undergraduate Honors Thesis Student, 2010-11. *Currently:* Medical student at Univ. TX HSC-San Antonio.

*Yasaman Shirazi-Fard, Ph.D. in Biomedical Engineering (2013) (co-chair*): *Awards/ Leadership:* American Society of Mechanical Engineers, Texas A&M Chapter: Freshman Mentor (2008-09), Graduate Student Liaison (2010-11); Persian Student Association: Vice President (2009-10), President (2010-11); International Astronautics Association 3rd place student poster, 2011; NASA Human Research Program 2nd place student poster, 2012; ASBMR Young Investigator Travel Award, 2012; NSBRI/HRP Presidential Poster Award, 2013. *Currently*: Rodent Research on ISS Manager, NASA Ames Research Center, Moffett Field, CA.

*Brandon Macias, Ph.D. in Kinesiology (2012)*: *Awards:* NSBRI Pre-Doctoral Fellowship, 2008-2010; Huffines Institute for Sports Medicine and Human Performance Student Research Grant, 2009; NSF Graduate Research Fellowship, 2010-2013; ACSM Research Foundation/NASA Space Physiology Research Award, May, 2010; NSF Nordic Research Opportunity, 2011 (funded 9-mo residency with Dr. Per Aspenberg, Linköping University, Sweden); Outstanding Graduate Student of the Year, Kinesiology, Texas A&M, 2011; Distinguished Honor Graduate Student, Health & Kinesiology, 2012; Outstanding Alumni—Early Career, College of Education & Human Development, TAMU, 2017. *Currently:* HHPC Technical Lead, Cardiovascular and Vision Lab, NASA Johnson Space Center, Houston, TX.

*Joshua Davis, M.S Mechanical Engineering (2011) (co-chair). Currently:* Test Engineer, Intel Corporation, Phoenix, AZ.

*David Cunningham, M.S*. *Kinesiology (2011):* *Awards:* NSBRI Pre-Doctoral Fellowship, 2009-2010; TX Chapter—American College of Sports Medicine, 1st place M.S. poster 2011. NSBRI Summer Internship in JSC Exercise Countermeasures Laboratory, 2011. *Currently:*

Research Technologist, Neuro-Rehabilitation Laboratory, Dept. of Biomedical Engineering, Cleveland Clinic, Cleveland, OH; doctoral student in neuroscience, Case Western Reserve University, Cleveland OH.

*Scott Morgan, M.S. Biomedical Engineering (2012) (co-chair):* *Currently:* Engineer, Cook Medical Corporation, Bloomington, IN.

*Estella Gonzalez, M.S. Mechanical Engineering (2012) (co-chair):* *Awards:* NASA Human Research Program 1st place student poster, 2012. *Currently:* Staff engineer with Chevron Oil, Houston, TX.

*Kaleigh Teel Camp, M.S. R.D. Nutrition and Food Sciences (2013): Awards:* Huffines Institute for Sports Medicine & Human Performance Student Research Grant, 2011 and Student Travel Grant, 2011; 3rd place M.S. poster, Annual Texas A&M Intercollegiate Faculty of Nutrition Research Symposium; TX Chapter—American College of Sports Medicine, 3rd place M.S. poster 2011; Intercollegiate Faculty of Nutrition Competitive Scholarship, 2011. *Currently:* In-patient Registered Dietician, Univ. of TX Medical Branch, Galveston, TX.

*Evelyn Yuen, M.S. R.D. Nutrition and Food Sciences (2013): Awards/Leadership:* Intercollegiate Faculty of Nutrition Competitive Scholarship, 2010 and 2011; Huffines Institute for Sports Medicine & Human Performance Student Travel Grant, 2011; Nutrition Students Graduate Association, President (2011-12). *Currently*: Registered Dietician, Care Corporation, New Jersey.

*Katie Elmer, B.S. Kinesiology, 2014:* Undergraduate Honors Thesis Student, 2012-13.

*Awards:* 2012-13 CEHD Undergraduate Research Award ($1000); TX Chapter—American

College of Sports Medicine, Mar 2013--1st place Undergraduate Poster; Student Research Week, Texas A&M University, April 2013 ---1st place Oral Presenter, UG Life Sciences & Kinesiology; *Currently:* Completed Doctorate of Physical Therapy, Texas State University, San Marcos, TX.

*Ramon Boudreaux, Ph.D. Biomedical Engineering, 2014 (co-chair*): *Awards:* NSBRI Pre-Doctoral Space Life Sciences Fellowship, 2012-2013;Texas Space Grant Fellowship, 2012;Huffines Institute for Sports Medicine & Human Performance Student Research Grant, 2012; ACSM Research Foundation/NASA Space Physiology Research Award, May, 2013; Plenary poster at American Society for Bone & Mineral Research, 2015. *Currently:* Research Engineer, Cook Research, Inc., West Lafayette, IN.

*Corinne Metzger, Ph.D. Kinesiology, 2018, Texas A&M:* *Awards:* Outstanding Graduate

Student Teaching Assistant, Physical Education Activity Program, Texas A&M, 2013;

Huffines Institute for Sports Medicine & Human Performance Student Research Grant,

2014, 2015; Alice L. Jee Travel Award, ORS Sun Valley Musculoskeletal Biology Workshop,

2015; International Osteoimmunology Conference (Crete, Greece) Travel Award, 2016;

Texas A&M University Distinguished Graduate Teaching Award, 2017; US Senator

Phil Gramm Doctoral Fellowship Award, 2017; TAMU Dept of Health & Kinesiology Honor

Graduate, Outstanding Doctoral Student, 2018. *Currently:* Post-doctoral fellow with Dr.

Matthew Allen, Univ. of Indiana School of Medicine, Indianapolis, IN.

*Anita Mantri, B.S. Earth Sciences, Rice University:* M.D./Ph.D. student, deceased 11/2016.

*Awards/Leadership:*  NSBRI Space Life Sciences Pre-Doctoral Fellowship, 2012-2014;

Co-President, Aerospace Medicine Association Student/Resident Board, 2013-14; Huffines

Institute for Sports Medicine & Human Performance Student Research Grant, 2013, 2015; ACSM Research Foundation/NASA Space Physiology Research Award, May, 2015. Aggies Commit Fellowship ($2500), TAMU Graduate & Professional Student Council, Nov, 2015; 2nd place, David Watson NSBRI Trainee Poster Competition at NASA Human Research Program Investigator Workshop; Galveston, TX Feb 2016.

*Rihana Bokhari, Ph.D. Kinesiology, 2018*: *Awards/Leadership:*  NSBRI Space Life Sciences

Pre-Doctoral Fellowship, 2013-2015; NASA Space Radiation Summer School (fully

supported travel expenses), 2015; Dept. Representative to university-level Graduate &

Professional Student Council; Huffines Institute for Sports Medicine & Human Perform-

ance Student Research Grant, 2015/2016; ACSM/NASA Space Physiology Research Grant

($5000), 2016; TX-ACSM Student Research Development Award ($1500), 2016, 2017;

TAMU College of Education & Human Development Strategic Research Fellowship,

2017-2018. *Currently:* Post-doctoral fellow with D. Gaddy, L.Suva; TAMU College of

Veterinary Medicine.

*Michael Junior, B.S. Biology 2016:* UG Research Thesis Scholar. *Awards:* TX Chapter—

American College of Sports Medicine, Mar 2016--1st place UG Poster; Student Research Week, Texas A&M University, Mar 2016 --1st place Oral Presenter, UG Life Sciences & Kinesiology. *Currently:* 2nd year student, Texas A&M School of Medicine, 2017.

*Allie Slavinsky Marich, M.S. Kinesiology, 2018:* Student Research Week, Texas A&M

University,April 2016 ---1st place Poster, UG Life Sciences & Kinesiology; American Society

of Gravitational and Space Research, Seattle, WA (Oct 2017) 1st place, Graduate Student

Poster Competition. Currently: applying to medical school.

*Katarina Larsen, UG Dance Science Majors:* UG student worker, 2nd yr.

*Anne Michal Anderson, UG Kinesiology Major:* UG student worker, 3rd yr; Honors thesis

completed in junior year.

**POST-DOCTORAL FELLOWS**

*Florence Lima (Ph.D., Univ. Jean Monnet, St. Etienne, FR in Molecular & Cellular Biology)*

2008-2011. *Currently:* Asst. Professor, Department of Nephrology, Univ. of Kentucky

School of Medicine.

*Heather C.M. Allaway (Ph.D., The Pennsylvania State University),* 2017-present. *Awards:*

Translational Research Institute for Space Health Post-Doctoral Fellowship (2018-2020).

**SERVICE**

**Department**

Applied Exercise Physiology Curriculum Committee (1993- )

Teaching Practicum for Ph.D. Students Ad-Hoc Committee (1996)

Honors Program Committee (1998-99)

KINE 601 Ad-Hoc Committee (2000)

A-1 Research Committee (2000, 2005, 2006)

Faculty Travel Funds Committee (2002)

Promotion and Tenure Committee (2006- ); Chair, 6/08-5/09

HLKN Graduate Women Scholars Network (organizer) (2006-2008)

Finance & Administration Committee, Tenure-Track Faculty Representative (2007-2008)

Search Committees: Exercise Physiology (1995, 2000, 2003-06; 2005-2006, Chair), Sports

Physiology (‘98-99), Motor Behavior (‘94, 2001-02), Huffines Institute Director (2008-2009)

Graduate Policy *Ad-Hoc* Committee, Chair (2014)

Graduate Curriculum Committee (2015- )

Graduate Committee Faculty (HLKN Standards) *Ad hoc* Sub-Committee (2015)

**Intercollegiate Faculty of Nutrition (<2011)/Graduate Faculty of Nutrition (2011-16 )**

Nutrition and Food Science Super Search Committee (for 5 faculty) (2006)

Executive Committee (2005-2008)

Texas Human Nutrition Conference Organizing Committee (2003-2005)

Graduate Nutrition Assessment Committee (2014-2015 )

Nutrition and Food Science Assessment Committee (2015-2016)

**College**

Doctoral Program Size Ad Hoc Committee (2015- )

Council of Principal Investigators (2004 -2009); Chair (2006-2007)

SAFE Task Force (2003-2004)

Developmental Leave Reviewer (2003)

Faculty Evaluation Sub-Committee (2000)

**University**

Research and Innovative Technologies IT Governance Committee--Chair (2017**-**

Institutional Animal Care and Use Committee (2012-2013)

Search Committees, Comparative Medicine Program Director –Chair (2009-2010), Assoc. Dean of Faculty (2011)

Task Force on the Graduate Experience (2009-2010)

Committee on Academic Freedom, Responsibility, and Tenure (2005 - 2007, 2011- 2014); CAFRT Pre-Screening Committee (2008-2009, 2014-2015)

Transportation Services Advisory Committee, Univ. CPI Representative (2009-2010)

Athletic Council (2009-2010)

Laboratory Safety Committee (2007-2010)

Council of Principal Investigators, College of Education and Human Development

Representative (2005-2010); CPI Executive Committee (2008-2010)

Women’s Faculty Network Mentor (2004-2008)

Student Research Week Presentation Judge (2003, 2015)

Allies Member (1996 - )

**COMMUNITY/PERSONAL ACTIVITIES**

U.S. Masters Swimming, regular competitor: Short Course National Championships (2004, 2008, 2015); Long Course National Championships (1999, 2007,2013, 2017); Pan Pacific Championships (Indianapolis, 1990); FINA Masters World Championships (Indianapolis, IN 1992; Palo Alto, CA, 2006).

Unitarian Universalist Church of Brazos Valley: Program Committee (1994-95), Nominating Committee (1996, 1998), Full-Time Ministry Committee (1996), Sunday School teacher (1996-2002, 2004-05), Diversity Committee Co-chair (1997-2000), Board of Trustees (2003-04); Ministerial Search Committee (2006-07); Committee on Ministry (2007-10); Mission/Vision Team (2008-09); President-Elect (2010-11); President (2011-12); Past –President (2012-13); Worship Team Chair (2013 ); Stewardship Chair (2014-2015).

Volunteer coach, Buckeye Masters Swim Club (1987‑1989)

Instructor, AHA Basic Cardiac Life Support (CPR) (1979‑1989)

*Current as of 06/25/2018*