Curriculum Vitae

LUCIA A. SEALE, Ph.D.

Associate Professor (Research)
Pacific Biosciences Research Center (PBRC)
School of Ocean and Earth Science and Technology (SOEST)
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Additional Appointments:

- *Full Member*, Cancer Biology Program, University of Hawai'i Cancer Center (UHCC), UH
- *Member*, Center for Cardiovascular Research, John A. Burns School of Medicine (JABSOM), UH
- *Cooperating Graduate Faculty*, Nutritional Sciences and Animal Sciences Programs, Dept. Human Nutrition, Food and Animal Sciences (HNFAS), College of Tropical Agriculture and Human Resilience (CTAHR), UH
- *Cooperating Graduate Faculty*, Dept. Cell & Molecular Biology (CMB), JABSOM, UH
- *Cooperating Graduate Faculty*, Dept. Molecular Biosciences and Bioengineering (MBBE), CTAHR, UH

EDUCATION

1992-1996	B.Sc. and Teaching Licentiate at Universidade Federal de Viçosa, Brazil (Biology Major)
1999-2001	M.Sc. in Human Physiology - Endocrinology at University of São Paulo, Brazil
2010-2012	Ph.D. in Cell and Molecular Biology at University of Hawai'i at Mānoa, USA

PROFESSIONAL EXPERIENCE

2023 – present	Associate Researcher (R4) – PBRC-SOEST, UH, HI, USA
2021 - 2023	Assistant Researcher (R3) – PBRC-SOEST, UH, HI, USA
2017 - 2020	Assistant Researcher (R3) – JABSOM, UH, HI, USA
2014 - 2017	Junior Researcher (R2) – JABSOM, UH, HI, USA
2012 - 2013	Junior Researcher (R2) and Proteomics Core Facility Co-director - CTAHR, UH, HI, USA
2010 - 2012	Graduate Assistant – JABSOM, UH, HI, USA
2009 - 2010	Lab Research Technician, UH, Honolulu, HI, USA
2007 - 2008	Freelance Science Writer and Consultant, São Paulo, Brazil
2004 - 2006	Research Scientist – Proteonik Inc., Ansan, South Korea
2002 - 2003	Junior Researcher (R2) - JABSOM, UH, HI, USA
2001 - 2002	Research Associate in Medicine – Dept. of Medicine, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, USA
1999 - 2000	Graduate Research Assistant, Biomedical Sciences Institute, Univ. de São Paulo, São Paulo, Brazil
1998	FAPESP Pre-Graduate Scholarship Fellow, Biomedical Sciences Institute, Univ. de São Paulo, São Paulo, Brazil

1997 Summer Trainee, International Association for the Exchange of Students for Technical Experience, German Institute of Human Nutrition, Potsdam-Rehbrücke, Germany

1993 - 1996 Undergraduate Research Assistant, Institute of Biotechnology Applied to Agriculture, Universidade Federal de Viçosa, Viçosa, Brazil

RESEARCH ACTIVITIES

Citation metrics (last updated: Aug 2025)
Total citations: 3551 (Google Scholar); 1958 (Web of Science)
h-index = 23 (Google Scholar); 21 (Web of Science)
i-10 index = 35 (Google Scholar)

Peer-Reviewed Publications
My Bibliography: https://www.ncbi.nlm.nih.gov/myncbi/lucia.seale.1/bibliography/public/

Selected Articles

- Baranov P, Tierney J, Alba M, Andreev D, (…), **Seale LA**, Seoighe C, Sergiev P, (…), TRANSLACORE European Network. (2025) Translon: a single term for translated regions. *Nature Methods* Accepted.
- Shimada BK, Watanabe M, Takayama Apo NK, Soares AG, Hallam KA, Rivers O, Ewell K, Santiago PJD, Swanson SM, Toh P, Alfulaij N, Berry MJ, **Seale LA**. (2025) Cardiac redox imbalance upon disruption of selenocysteine decomposition in mice. *Am J Physiol Heart Circ Physiol* In Revision.
- Shimada BK, Ogawa-Wong AN, Soares AG, Hallam KA, Torres DJ, Brockmann JD, Kurokawa S, Ewell KL, Bellinger MT, Toh P, Remedios GLP, Alfulaij N, Swanson S, Santiago PJD, Zavacki AM, Berry MJ, **Seale LA**. (2025) Global loss of selenocysteine lyase in mice drives lipid accumulation in brown adipocytes. *Am J Physiol Endocrinol Metab* In Revision
- Lee KCY, Williams AL, Fujimoto A, Gerschenson M, Schuller C, Polgar N, Alfulaij N, Shimada BK, **Seale LA**, Shohet RV. (2025) PKM2 is a key regulator of cardiac lipid metabolism in mice. *Mitochondrion* 85:102070. DOI: 10.1016/j.mito.2025.102070. PMID: 40706825.
- Shimada BK, Apo Takayama NK, Hallam KA, Santiago PJD, Yew JY, Alfulaij N, Nakahara-Akita K, Soares AG, Berry MJ, **Seale LA**. (2025) A selenomethionine deficient, high-fructose diet does not lead to cardiometabolic disorder in the selenocysteine lyase knockout mice. *J Trace Elem Med Biol* 90: 127685. DOI: 10.1016/j.jtemb.2025.127685. PMID: 40543467.
- El-Aziz TM, Stockand JD, **Seale LA**, Mironova E, Soares AG. Gi-DREADD activation decreases Epithelial Na+ Channel activity in renal principal cells. (2025) *Physiol Rep* 13: e70433. DOI: 10.14814/phy2.70433. PMID: 40526015. PMCID: PMC12172568.
- **Seale LA***, Yamanaka A*, Hammond K, Lim E, Wilkens LR, McFall P, Aflague TF, Coleman P, Fleming T, Shallcross L, Deenik J, Novotny R. (2025) Dietary micronutrient intake and the prevalence of metabolic conditions among children from the US-Affiliated Pacific region in the Children's Healthy Living Program. *Curr Dev Nutr* 9(1): 104531. DOI: 10.1016/j.cdnut.2024.104531. **Co-first authors*
- Chen Z, Inague A, Kaushal K, (…), Shimada BK, **Seale LA**, Fabiano M, Schweizer U, Netto LE, Meotti FC, Alborzinia H, Miyamoto S, Angeli JPF. (2024) PRDX6 contributes to selenocysteine metabolism and ferroptosis resistance. *Mol Cell* S1097-2765(24)00867-0. DOI: 10.1016/j.molcel.2024.10.027. PMID: 39547224.
- Ralston NVC, Raymond LJ, Gilman CL, Soon R, **Seale LA**, Berry MJ. (2024) Maternal seafood consumption is associated with improved selenium status health: Implications for child health. *Neurotoxicology* 101:26-35. DOI: 10.1016/j.neuro.2024.01.003. PMID: 38272071.
- Toh P, **Seale LA**, Berry MJ, Torres DJ. (2023) Prolonged maternal exposure to glucocorticoids alters selenoprotein expression in the developing brain. *Front Mol Neurosci* 16: 1115993 DOI: 10.3389/fnmol.2023.1115993. PMID: 37033382. PMCID: PMC10080067.

- An KJ, Hanato AN, Hui KW, Pitts MW, **Seale LA**, Nicholson JL, Toh P, Kim JK, Berry MJ, Torres DJ. (2023) Selenium protects mouse hypothalamic cells from glucocorticoid-induced endoplasmic reticulum stress vulnerability and insulin signaling impairment. *Antioxidants* 12(02): 526. DOI: 10.3390/antiox12020526. PMID: 36830084.
- Shimada BK, Swanson S, Toh P, **Seale LA**. (2022) Metabolism of selenium, selenocysteine, and selenoproteins in ferroptosis in solid tumor cancers. *Biomolecules* 12(11): 1581. DOI: 10.3390/biom12111581. PMID: 36358931.
- Shimada BK, Watanabe LM, Swanson S, Toh P, **Seale LA**. (2022) Selenium and selenoproteins in thermogenic adipocytes. *Arch Biochem Biophys* 731: 109445. DOI: 10.1016/j.abb.2022.109445. PMID: 36265651.
- Watanabe LM, **Seale LA**. (2022) Challenging aspects to precise health strategies in Native Hawaiians and Other Pacific Islanders using statins. *Front Public Health* 10:799731. DOI: 10.3389/fpubh.2022.799731. PMID: 35296045.
- Cardoso BR, Cominetti C, **Seale LA**. (2022) Editorial: Selenium, Human Health and Chronic Disease. *Front Nutr* 8:827759. DOI: 10.3389/fnut.2021.827759. eCollection 2022. PMID: 35118114.
- Shimada BK, Alfulaij N, **Seale LA**. (2021) The impact of selenium deficiency on cardiovascular function. *Int J Mol Sci* 22(19): 10713. DOI: 10.3390/ijms221910713. PMID: 34639053.
- **Seale LA**, Gilman CL, Zavacki AM, Larsen PR, Inokuchi M, Breves JP, Seale AP. (2021) Regulation of thyroid hormones and branchial iodothyronine deiodinases during freshwater acclimation in tilapia. *Mol Cell Endocrinol* 538:111450. DOI: 10.1016/j.mce.2021.111450. PMID: 34506867.
- Watanabe LM, Hashimoto AC, Torres DJ, Alfulaij N, Peres R, Sultana R, Maunakea AK, Berry MJ, **Seale LA**. (2021) Effect of statin treatment in obese selenium-supplemented mice lacking selenocysteine lyase. *Mol Cell Endocrinol* 533:111335. DOI: 10.1016/j.mce.2021.111335. PMID: 34052303.
- **Seale LA**, Ogawa-Wong AN, Watanabe LM, Khadka VS, Menor M, Torres DJ, Carlson BA, Hatfield DL, Berry MJ. (2021) Adaptive thermogenesis in a mouse model lacking selenoprotein biosynthesis in brown adipocytes. *Int J Mol Sci* 22(2): E611. DOI: 10.3390/ijms22020611. PMID: 33435397.
- Watanabe LM, Hashimoto AC, Torres DJ, Berry MJ, **Seale LA**. (2020) Effects of selenium supplementation on diet-induced obesity in mice with a disruption of the selenocysteine lyase gene. *J Trace Elem Med Biol*, 62:126596. DOI: 10.1016/j.jtemb.2020.126596. PMID: 32683228.
- **Seale LA**, Torres DJ, Berry MJ, Pitts MW. (2020) A role for selenium-dependent GPX1 in SARS-CoV-2 virulence. *Am J Clin Nutr*, 112(2): 447-448. DOI: 10.1093/ajcn/nqaa177. PMID: 32592394.
- **Seale LA**, Khadka VS, Menor M, Xie G, Watanabe LM, Sasuclark A, Guirguis K, Ha HY, Hashimoto AC, Peplowska K, Tiirikainen M, Jia W, Berry MJ, Deng Y. (2019) Combined Omics Reveals That Disruption of the Selenocysteine Lyase Gene Affects Amino Acid Pathways in Mice. *Nutrients* 11(11): E2584. DOI: 10.3390/nu11112584. PMID: 31717805.
- **Seale LA**. (2019) Selenocysteine β-Lyase: Biochemistry, Regulation and Physiological Role of the Selenocysteine Decomposition Enzyme. *Antioxidants* 8(9): pii: E357. DOI: 10.3390/antiox8090357. PMID: 31480609.
- Ha HY, Alfulaij N, Berry MJ, **Seale LA.** (2019) From Selenium Absorption to Selenoprotein Degradation. *Biol Trace Elem Res*. 192(1): 26-37. DOI: 10.1007/s12011-019-01771-x. PMID: 31222623.
- **Seale LA**, Ha HY, Hashimoto AC, Berry MJ. (2018) Relationship between selenoprotein P and selenocysteine lyase: insights into selenium metabolism. *Free Radical Biology & Medicine* 127:182-189. DOI: 10.1016/j.freeradbiomed.2018.03.037. PMID: 29567390.
- **Seale LA**, Ogawa-Wong AN, Berry MJ. (2018) Sexual dimorphism in selenium metabolism and selenoproteins. *Free Radic Biol Med* 127:198-205. DOI: 10.1016/j.freeradbiomed.2018.03.036. PMID: 29572096.
- Ogawa-Wong AN, Berry MJ, **Seale LA**. (2016) Selenium and metabolic disorders: an emphasis on type 2 diabetes risk. *Nutrients* 8(2). pii: E80. DOI: 10.3390/nu8020080. PMID: 26861388.

- **Seale LA**, Gilman CL, Hashimoto AC, Ogawa-Wong AN, Berry MJ. (2015) Diet-induced obesity in the selenocysteine lyase knockout mouse. *Antioxid Redox Signal* 23(10):761-74. DOI: 10.1089/ars.2015.6277. PMID: 26192035.
- Pitts MW, Reeves MA, Hashimoto AC, Ogawa A, Kremer P, **Seale LA**, Berry MJ. Deletion of selenoprotein M leads to obesity without cognitive deficits. (2013) *J Biol Chem* 288 (36):26121-34. DOI: 10.1074/jbc.M113.471235. PMID: 23880772.
- **Seale LA**, Hashimoto AC, Kurokawa S, Gilman CL, Seyedali A, Bellinger FP, Raman AV, Berry MJ. (2012) Disruption of the selenocysteine lyase-mediated selenium recycling pathway leads to metabolic syndrome in mice. *Mol Cell Biol* 32 (20):4141-54. DOI: 10.1128/MCB.00293-12. PMID: 22890841.

Books and Chapters

- **Seale LA**, Zavacki AM, Berry MJ. (2015) Selenoproteins and the Metabolic Syndrome. In: *Diversity of Selenium Functions in Health and Disease*. R Brigelius-Flohé & H Sies; p. 247-272. CRC Press: New York, NY. ISBN: 978-1-4822-5126-5.
- **Seale LA** & Berry MJ. (2013) Selenoproteins – Regulation. In: *Encyclopedia of Inorganic and Bioinorganic Chemistry.* RA Scott; p. 1-9. John Wiley & Sons, Ltd: West Sussex, United Kingdom. ISBN: 978-1-119-95143-8.
- **Seale LA**, Berry MJ. (2013) Selenium in human health and disease. In: *Encyclopedia of Metalloproteins*. RH Kretsinger, VN Uversky, EA Permyakov; Ed. Springer-Verlag, New York, NY, USA. ISBN 978-1-4614-1534-3.
- **Seale LA** & Berry MJ. (2013) Selenoproteins – regulation. In: *Metals in Cells*. V Cullotta & RA Scott; p. 311-320. John Wiley & Sons, Ltd: West Sussex, UK. ISBN: 978-1-119-95323-4.
- **Seale LA,** Ralston NV, Berry MJ. (2011) Role of selenium in mitigating mercury toxicity. *Biochemistry Research Trends*, 52p., NOVA Publishers, Inc., New York, NY, USA. ISBN: 978-1-61209-261-4.

Symposium/Conference Presentations

Selected talks

- **Seale LA**. *Selenium metabolism in brown adipocyte physiology*. In: TEMA 18 – 18th International Conference on Trace Elements in Man and Animals - Nov 8-12, 2024, Bangalore, India.
- **Seale LA**. *Selenocysteine lyase sustains selenoprotein synthesis in thermogenic adipocytes*. In: 15th ISTERH Conference - Oct 6-10, 2024, Murcia, Spain.
- **Seale LA**. *Thyroid hormone status in mice lacking selenium recycling*. In: Nutrition 2024, Annual Meeting of the American Society for Nutrition - Jun 29-July 2, 2024, Chicago, IL, USA.
- **Seale LA**, Brenner N, Mariotti M. *Evolution of the Sec-decomposing Enzyme Selenocysteine Lyase*. In: EMBO Workshop on Recoding and the Diversity of Genetic Decoding, May 13-18, 2024, Bantry, Ireland.
- **Seale LA**. *Selenium metabolism in thermogenic adipocytes*. In: NutriTox Seminar Series - Apr 29th, 2024, Virtual. Organized by Dept. Molecular & Experimental Nutritional Medicine, Univ. of Potsdam, Germany.
- **Seale LA**. *The Evolution of Selenocysteine Decomposition.* In: Cell & Molecular Biology Graduate Program Seminar Series, Mar 4, 2024, JABSOM, UH, Honolulu, HI, USA
- Shimada BK, Santiago PJ, Toh P, Swanson S, **Seale LA**. *Lack of selenocysteine lyase in brown adipocytes reduces selenoproteins in mice*. In: 7th International Conference on Selenium in Environment and Human Health (ICSEHH) - Sep 24-28, 2023, Bangkok, Thailand.
- **Seale LA**. *Selenium metabolism in obesity and metabolic disorders*. In: School of Life Sciences Seminar Series, UH - Feb 24, 2023, Honolulu, HI, USA.
- **Seale LA**. *Selenium Recycling in Obesity*. In: IBUB Aula Magna Seminar, Jun 15, 2022, Facultat de Biologia, University of Barcelona, Catalunya, Spain. Organizer: Dr. Marco Mariotti.

- **Seale LA**. *Energy metabolism in the selenocysteine lyase knockout mouse*. In: International Conference of Trace Elements and Minerals (ICTEM 2022) and 14th International Meeting of the International Society for Trace Element Research in Humans (ISTERH), Jun 5-10, 2022, Aachen, Germany.
- **Seale LA,** Ogawa-Wong AN, Shimada BK, Watanabe LM, Alfulaij N, Torres DJ, Ha H, Toh P, Khadka V, Menor M, Brockmann JD, Zavacki AM, Berry MJ. *Selenium in brown adipose tissue adaptive thermogenesis*. In: 12th International Symposium on Selenium in Biology and Medicine, Feb 16-21, 2022 - Honolulu, HI, USA.
- Seale AP & **Seale LA**. *A "pair" review of academic careers.* In: 45th Annual Meeting of the Japan Society for Comparative Endocrinology, Nov 12-14, 2021. Tokyo, Japan. Online, Live
- **Seale LA**. *Selenium Recycling in the Brown Adipose Tissue*. In: 2021 RCMI Consortium National Conference, Mar 24-26, Virtual (due to pandemic). Recorded in video.
- **Seale LA.** *Metabolismo e reciclagem de selênio em obesidade.* In: Invited Seminar for the Nutrition and Metabolism Graduate Program, Mar 13, 2020, Faculdade de Medicina de Ribeirão Preto, Univ. de São Paulo - Ribeirão Preto, SP, Brazil.
- **Seale LA**, Khadla VS, Menor M, Watanabe LM, Sasuclark A, Guirguis K, Ha HY, Hashimoto AC, Peplowska K, Tiirikainen M, Berry MJ, Deng Y. *Transcriptomics of obese mice lacking selenium recycling*. In: RCMI 2019 National Conference, Dec 15-17, 2019 – Bethesda, MD, USA.
- **Seale LA**, Watanabe LM, Torres DJ, Hashimoto AC, Berry MJ. *Selenium supplementation and obesity in mice lacking the selenocysteine lyase gene*. In: 13th Biennial Conference of the International Society for Trace Element Research in Humans (ISTERH 2019), Sep 22-26, 2019, Sanur Beach, Bali, Indonesia.
- **Seale LA**, Berry MJ. *Sex differences in metabolic syndrome in the Scly knockout mouse*. In: RCMI Translational Science 2017, Oct 28-Nov 1, Washington, DC, USA.
- **Seale LA**, Ha HY, Ogawa-Wong AN, Hashimoto AC, Kurokawa S, Berry MJ. *Selenium metabolism in the selenoprotein P and selenocysteine lyase knockout mouse models.* In: Selenium 2017 – 11th International Symposium on Selenium in Biology and Medicine and 5th International Conference on Selenium in the Environment and Human Health, Aug 13-17, Stockholm, Sweden.
- **Seale LA**, Ogawa-Wong AN, Ha HY, Hashimoto AC, Berry MJ. *Crosstalk between selenocysteine decomposition and energy metabolism.* In: Trace Elements in Biology and Medicine, a Federation of American Societies for Experimental Biology (FASEB) Meeting, Jun 5-10, Big Sky, MT, USA.
- **Seale LA**. *Selenocysteine lyase in obesity induced by a high fat diet*. In: 4th International Conference on Selenium in the Environment and Human Health – Oct 18-21, São Paulo, Brazil.
- **Seale LA**. *Selenocysteine lyase and metabolic syndrome.* In: 10th International Symposium on Selenium in Biology and Medicine, Sep 14-18, Berlin, Germany. ***Awarded "Best Oral Presentation" by the Organizing Committee**.
- **Seale LA**, Berry MJ. *The influence of selenium recycling in glucose metabolism*. In: Fall Retreat, Cell & Molecular Biology Graduate Program, 2011, JABSOM, UH, Honolulu, HI, USA**. *Best presentation**

Session Chair

- **Seale LA** & Swathi D. *Session: Diabetes and Obesity*. In: TEMA 18 – 18th International Conference on Trace Elements in Man and Animals - Nov 8-12, 2024, Bangalore, India
- Cardoso BR & **Seale LA**. *Session: Ferroptosis: Crosstalk of iron and selenium metabolism: from mechanisms to translational finding*. In: 15th ISTERH Conference, Oct 6-10, 2024, Murcia, Spain.
- **Seale LA**. *Session: Selenium in Human and Animal Health.* In: 7th International Conference on Selenium in Environment and Human Health (ICSEHH) - Sep 24-28, 2023, Bangkok, Thailand.
- **Seale LA**. *Speaker Session IIC.* In: 12th International Symposium on Selenium in Biology and Medicine, Feb 16-21, 2022 - Honolulu, HI, USA

Selected Poster Presentations (last 5 years)

- Soares AG, Shimada BK, **Seale LA**. *Selenocysteine β-lyase (Scly) and its role in renal selenoprotein homeostasis.* In: American Physiology Summit – Apr 24-27, 2025 Baltimore, MD, USA

- Hallam KA, Brenner NY, **Seale LA**. *The degradation mechanism of glutathione peroxidases 1 and 3.* In: 49th Annual Albert L. Tester Memorial Symposium - Apr 9-11, 2025, Honolulu, HI, USA
- Nakahara-Akita KK**, Shimada BK, Hallam KA, Soares AG, **Seale LA**. *The effects of selenium recycling and GPX3 on insulin sensitivity in adipose tissue.* In: CTAHR Showcase & Research Symposium – Apr 11, 2025 Honolulu, HI, USA. ***Best Poster Award, MBBE Dept., Undergraduate Student**. ***Presenter*
- Ramos BK, Burger A, Medeiros M, Yoneishi NM, Shimada BK, **Seale LA**. *Effect of environmental selenium on microbial diversity in Culex quinquefasciatus*. In: CTAHR Showcase and Research Symposium – Apr 11, 2025, Honolulu, HI, USA
- Santiago PJD, Shimada BK, Alfulaij N, Toh P, **Seale LA**. *Acute thermogenic responses in mice lacking the gene for selenocysteine lyase in brown adipocytes*. In: Joint Keystone Symposium – Obesity and Adipose Tissue & MASH Pathogenesis and Therapeutic Approaches – Feb 23-26, 2025, Banff, Canada
- Shimada BK, Soares AG, Colaruotolo KA, Santiago PJD, Apo Takayama NK, Swanson SM, Toh P, Alfulaij N, Berry MJ, **Seale LA**. *Loss of selenocysteine lyase impacts the glutathione system in the heart*. In: 2025 Western Regional IDeA Conference – Feb 26-28, 2025, Anchorage, AK, USA
- Yamanaka AB, **Seale LA**, Hammond K, Lim E, Shallcross L, Aflague TF, Novotny R. *Micronutrient intake and metabolic status among children in the US-Affiliated Pacific region*. In: Nutrition 2024, Annual Meeting of the American Society for Nutrition - Jun 29-Jul 2, 2024, Chicago, IL, USA.
- Shimada BK, Watanabe M, Takayama NA, Colaruotolo K, Santiago PJD, Swanson SM, Alfulaij N, Berry MJ, **Seale LA**. *Loss of selenocysteine lyase increases redox imbalance in the hearts of female mice during diet-induced obesity*. In: 9th National IDeA Symposium on Biomedical Research Excellence - Jun 16-19, 2024, Washington DC, USA
- **Seale LA**, Santiago PJ, Colaruotolo K, Toh P, Swanson S, Shimada BK. *Tissue specific reliance of glutathione peroxidases on selenocysteine lyase*. In: SfRBM 30th Annual Conference and SFRRI 21st Biennial Meeting - Nov 15-18, 2023, Punta Del Este, Uruguay
- Santiago PJ, Shimada BK, **Seale LA**. *The characterization of mice lacking the gene for selenocysteine lyase in brown adipocytes*. In: Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS) 2023 - Nov 15-18, 2023, Phoenix, AZ, USA
- Swanson S, Shimada BK, **Seale LA**. *Effects of beta-adrenergic treatment in differentiated PAZ6 brown adipocytes.* In: Am. Diabetes Association 83rd Scientific Sessions, Jun 23-26, 2023, San Diego, CA, USA
- Santiago PJD, Shimada BK, Alfulaij N, Toh P, **Seale LA**. *The characterization of mice lacking the gene for selenocysteine lyase in brown adipocytes.* In: JABSOM Annual Biomedical Sciences and Health Disparities Symposium - Apr 20-21, 2023, Honolulu, HI, USA
- Swanson S, Shimada BK, **Seale LA**. *Effects of beta-adrenergic treatment in differentiated PAZ6 brown adipocytes.* In: JABSOM Annual Biomedical Sciences and Health Disparities Symposium - Apr 20-21, 2023, Honolulu, HI, USA
- Shimada BK, Swanson S, Toh P, Alfulaij N, Berry MJ, **Seale LA**. *Selenium deficiency and loss of selenocysteine lyase activity exacerbates diet-induced obesity in female mice.* In: 47th Annual Albert L. Tester Memorial Symposium - Apr 12-14, 2023, Honolulu, HI, USA
- Shimada BK, Swanson S, Toh P, Torres DJ, **Seale LA**. *Selenocysteine lyase disruption leads to activation of GPX4-independent pathways in the brown adipose tissue of mice.* In: Joint Keystone Symposium - Adipose Tissue: Energizing the Good Fat/Bioenergetics in Health and Disease, Jan 15-19, 2023, Keystone, CO, USA
- Shimada BK, Swanson S, Toh P, **Seale LA**. *Ferroptosis in the brown adipose tissue of mice lacking selenocysteine lyase.* In: 29th Annual Conference of the Society for Redox Biology and Medicine - Nov 16-19, 2022, Orlando, FL, USA
- Shimada BK, Swanson S, Toh P, **Seale LA**. *Selenium deficiency maintains selenocysteine lyase expression and sustains cardiac function and de novo selenoprotein synthesis*. In: International Conference of Trace Elements and Minerals 2022 and 14th International Meeting of the International Society for Trace Element Research in Humans - Jun 5-10, 2022, Aachen, Germany

- Swanson S**, Shimada BK, **Seale LA**. *Selenocysteine lyase regulates selenoprotein synthesis in human embryonic kidney cells*. In: Annual JABSOM Biomedical Sciences and Health Disparities Symposium – Apr 7-8, 2022, Honolulu, HI, USA. ***Best Poster Award - Graduate Student Division.** ***Presenter*
- Shimada BK, **Seale LA**. *Selenium deficiency maintains selenocysteine lyase expression and sustains de novo selenoprotein synthesis in male but not female hearts.* In: 12th International Symposium on Selenium in Biology and Medicine, Feb 16-21, 2022, Honolulu, HI, USA.
- Watanabe LM, Hashimoto AC, Torres DJ, Alfulaij N, Peres R, Maunakea AK, Berry MJ, **Seale LA**. *The influence of statin treatment and selenium supplementation in obese mice lacking selenocysteine lyase*. In: International Conference of Trace Elements and Minerals and 14th Biennial Conference of the International Society for Trace Element Research in Humans - Aug 2-6, 2021 Online.
- Watanabe LM, Hashimoto AC, Torres DJ, Berry MJ, **Seale LA**. Effect of statin treatment on obese mice lacking selenocysteine lyase. In: Annual Meeting, Am. Society for Nutrition, Jun 1-4, 2020, Online.

Professional Training

Selected Workshop, Symposium & Forum Participations

1. *UH Book Club.* Organized by Debora Halbert (Vice-President for Academic Strategy, UH System). Held at the UH Hamilton Library. Every Summer since 2023
2. *Grant Writing Workshop*. Organized by John D. Robertson (Grant Writers Workshops and Seminars, LLC.). Held at the East-West Center, UH Mānoa. 04/04/2025
3. *Google AI Essentials*. Organized by Coursera (Online)**.** 02/20/2025
4. *Cohort Kumukahi*. Organized by UH Mānoa Native Hawaiian Place of Learning Advancement Office. Held at Hale Aloha, UH Mānoa. Aug 2024
5. *Media Training: Understanding the media: A starter guide for scientists.* Organized by SciLine/American Association for the Advancement of Science (AAAS). Held online. 06/05/2023
6. *ASN Early Career Mentorship Program.* Organized by Am. Society for Nutrition. Online. Spring 2023
7. *XXI Jornada de Biologia Evolutiva*. Organized by the Institut d'Estudis Catalans and Societat Catalana de Biologia. Held at Institut d'Estudis Catalan, Barcelona, Spain. 06/29/2022
8. *Effective Approaches to Fostering Faculty Gender Diversity, Equity, and Inclusion: Celebrating Progress*. Organized by the Office of Research on Women's Health, National Institutes of Health (NIH). Held online. 10/05/2021
9. *CSHL Virtual Meeting on Ubiquitin, Autophagy and Diseases.* Organized by the Cold Spring Harbor Laboratories. Held online. 04/27-30/2021
10. *NIH-NMA Career Development Program.* Organized by the Office of Minority Health Research Coordination (OMHRC) of the NIDDK as part of the National Medical Association Annual Convention and Scientific Assembly. Held at the Hawaii Convention Center, Honolulu, HI, USA. 07/27-28/2019
11. *Nutrigenetics, Nutrigenomics and Precision Nutrition Short Course.* Organized by the University of North Carolina Nutrition Research Institute and the UNC Nutrition Obesity Research Center. Held at Kannapolis, NC, USA. 06/03-06/2019
12. *Media Training Guide*. Seminar series organized by the Achievement Rewards for College Scientists Foundation. Held at UH, Honolulu, HI, USA. 10/28/2015
13. *Exercise in the Management and Prevention of Metabolic Disease.* Mini-Conference. Organized by Dept. Kinesiology, East Carolina University (USA) and Victoria University (Australia). Held at the Inst. of Sport, Exercise Science and Active Living, Victoria Univ., Melbourne, Australia. 06/24-30/2015
14. *EndoCareers – Early Career Forum*. Organized by The Endocrine Society. Held at the 97th Annual Meeting of The Endocrine Society, San Diego, CA, USA. 03/04/2015
15. *Translational Proteomics Center Mini-Symposium.* Organized by the Translational Proteomics Center at the Comprehensive Cancer Center, Univ. of Puerto Rico and the RCMI Program at Medical Sciences Campus. Held in the Translational Proteomics Center, Univ. of Puerto Rico, San Juan, PR. 12/07/2012
16. *Science: Becoming the Messenger.* Organized by the National Science Foundation. Held at Waikiki Beach Marriott Resort & Spa, Honolulu, HI, USA. 01/23/2012

17. *Hawaii Seafood Symposium: Making Sense of Seafood Health Benefits and Risks.* Organized by the Hawai'i Seafood Council and NOAA Fisheries Service. Held at Ala Moana Hotel Conference Center, Honolulu, HI, USA. 10/20-22/2010

Visiting Researcher

- Visiting Researcher, Laboratory of Computational Genetics, PI: Dr. Marco Mariotti, Department of Genetics, Microbiology and Statistics, University of Barcelona, Catalunya, Spain. 06/12-30/2022
- Open House Visit, Translational Proteomics Center, Univ. Puerto Rico, San Juan, PR. 12/07/2012
- Research Assistant Visit – Thyroid Laboratory, Brigham and Women's Hospital/ Harvard Medical School, Boston, MA, USA. 05/28-06/03/2011

Current Support

4/22/2021 - 3/31/2026	NIH/NIDDK R01 DK128390-01 Seale (PI) "Selenium metabolism in cold-induced adaptive thermogenesis"
08/15/2018 - 07/31/2028	P20GM125508-06 (Amend, PI); Role: Outreach and Mentoring Core Coordinator NIH/NIGMS - COBRE-Microbiome - Phase I and II "Integrative Center for Environmental Microbiomes and Human Health"
03/20/2022 - 01/31/2027	P20GM139753-01A1 (Berry, PI); Roles: Mentoring /Mouse Metabolic Phenotyping Core Director NIH/NIGMS - COBRE-Precision Nutrition – Phase I "Integrative Center for Precision Nutrition and Human Health"
7/1/2024 – 06/30/2028	Office of the Dean - SOEST/UH #no ID Seale (PI) Start-up Funds

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TEACHING ACTIVITIES

Courses at UHM

- ANSC 682 – Advanced Topics in Animal Sciences - Micronutrients (3 credits; w/ Caleb Reichhardt – HNFAS/CTAHR). Graduate; Animal Sciences, Nutritional Sciences, CMB, MBBE
- CMB 631 – Research Rotations (3 credits). Graduate; CMB, MBBE
- CMB 654G – Genetics Seminar (G): Molecular Biology of the Cell (1 credit). Graduate; CMB, MBBE
- CMB 699 – Directed Research (V). Graduate; CMB
- FSHN 486– Nutritional Biochemistry II (3 credits; w/ Mi-Jeong Lee – HNFAS/CTAHR). Undergraduate & graduate; Food Sciences, Human Nutrition, Dietetics, and Animal Sciences
- FSHN 785 – Diet and Cancer Seminar (1 credit). Graduate; Animal Sciences, Nutritional Sciences, CMB, MBBE
- MBBE 499, 699 – Directed Research (V). Undergraduate, graduate; MCB, MBBE
- MBBE 700 – Thesis Research (V). Graduate; MBBE

Course in preparation

- ANSC – Micronutrients: Vitamins and Minerals (3 credits; w/ Caleb Reichhardt – HNFAS/CTAHR). Graduate; Animal Sciences, Food Sciences, Nutritional Sciences, CMB, MBBE, Marine Biology programs

Guest Lectures

- ANSC 472, Comparative Endocrinology: "*Adipose tissue, adipokines and cancer*"
- CMB 622, Cell & Molecular Biology II: "*Cellular metabolism of cancer*"
- CMB 621, Cell & Molecular Biology I: "*Adipocyte and Energy Homeostasis*"
- CMB 606, Introduction to Neurosciences, *"Neuroendocrine Control of the Body"*
- FSHN 685, Nutrition and Disease: Cellular and Molecular Aspects*, "Selenium"*
- MD4, Endocrinology subunit, *"Biology and Physiology of Fat Cells"*

***Laboratory Mentees*:** 48 total; 18 from underserved groups; 33 women.
Ph.D. and M.Sc. Committee Member: 7 students, 2 as Chair (CMB and MBBE)
Undergraduate Thesis Committee Chair: 4 students (Biochemistry and MBB)

SERVICE ACTIVITIES

University

2021-present	Member of the Institutional Biosafety Committee (IBC) - UH
2023-2024	Member, Search Committee, UH, HNFAS & TPSS/CTAHR and PBRC/SOEST
2017-2021	Member, Selection Committee for the Robert T. Wong Lectureship – Univ. of Hawai'i Foundation & JABSOM, UH.
2018-2019	Member, Qualifying Exam Committee, CMB graduate program - JABSOM, UH.
2013-2017	Educational Volunteer, Edge of The Reef, Waikīkī Aquarium – UH, Honolulu, HI
2013-2023	Poster Session Referee, JABSOM Annual Biomedical Sciences and Health Disparities Symposium, UH, Honolulu, HI.

Membership in Professional Associations

Organization for the Study of Sex Differences, Member
American Heart Association, Member
International Society for Selenium Research, Member
International Society for Trace Elements Research in Humans, Member
American Society for Nutrition, Member
Society for Redox Biology and Medicine, Member

Ad-hoc Peer Reviewer

Journals: *Adipocyte; Advanced Biology; Advanced Science; Advances in Nutrition; Aging; Algal Research; Antioxidants; Antioxid Redox Signal; Appl Microbiol Biotech; Archiv Biochem Biophys; Archiv Physiol Biochem; BBA – Gene Regulatory Mechanisms; BBA - General Subjects; Biochimie; Bioengineering; Biol Trace Elem Res; Biomolecules; BMC Biology; British Journal of Nutrition; Cancer and Metastasis Reviews; Cardiovascular Diabetology; Cell Biol Toxicol; Cells; Cellular and Molecular Life Sciences; Clinical and Translational Medicine; Clin Nutrit; Critical Public Health; Curr Diabetes Rev; Diagnostics; Ecotoxicology and Environmental Safety; Endocrine Research; Environment & Health; Exp Gerontol; Food & Function; Food Science & Human Wellness; Frontiers Endocrinol; Frontiers Nutr; Frontiers Vet Sci; Gene; Genes & Nutrition; Healthcare; International Journal of Biological Macromolecules; Int J Cardiol; Int J Mol Sci; JACC Asia; Journal of Agricultural and Food Chem; J Animal Sci Biotech; J Biol Chem; Journal of Food Science; J Hum Nutr Dietetics; J Nutr; J Nutr Biochem; JTEMB; Marine Drugs; Materials Advances; Mol Cell Endocrinol; Mol Biol Rep; Molecular Carcinogenesis; Molecular Genetics and Metabolism; Nutrients; Nutrition; Obesity Reviews; Pharmaceutical Biology; PLoS One; PNAS; Science; Science Advances; Scientific Reports; Tetrahedron; Tissue and Cell; Trends Cell Biol; World J Oncol.*

Guest Associate Editor: *Frontiers in Nutrition*, Special Issue "Selenium, Human Health and Chronic Diseases", 2021

Grant Review Panels:

- NIH Nutrition & Metabolism in Health and Disease (NMHD) Study Section, Appointed Panel Member
- NSF Panel, Ad hoc Member
- NIH Kidney, Nutrition, Obesity and Diabetes (KNOD) Study Section – Ad hoc Member
- NZ1 Molecular Biology, Structural Biology, Biotechnology (National Science Centre Poland) Sonatina-5 Mechanism – Ad hoc Member
- UHCC Pew-Stewart Scholar Award Selection Committee
- UHCC Seed Grant Pilot Project, Cancer Biology Program
- RCMI-Coordinating Center Clinical Research Pilot Projects Program

Community Service

- "*Mānoa Research Day*" at the Hawaii State Capitol. Science dissemination on "*Selenium and Brown Fat*" to Hawaii State Legislators.
- Poster Session Referee, Annual Meeting of the Society for Redox Biology and Medicine, 2022-2023.
- Volunteer judge, Science Fair, McKinley High School, 2017-2019.

Other Skills

- Scientific writer to consumer magazines; published "Tropical Marine Gardens" (2009; ISBN: 978-85-85371-83-8).
- Fluent in English and Portuguese. Reads German, Korean, Spanish and French.
- Avid reader (>50 non-scientific books/year)

Media appearances

- *"Balancing nutrition: Micronutrient study could help prevent childhood obesity in Pacific region"* - Article in Eureka Alert [Online], written by Marcie Grabowski. Available at: https://www.eurekalert.org/news-releases/1075972
- "*Voice of the Sea: The Pacific Biosciences Research Center*" - 30-min TV show episode highlighting the research of PBRC laboratories, including the Seale Lab. Produced by Kanesa Seraphin, from the UH Sea Grant. Available at: https://seagrant.soest.hawaii.edu/pbrc/
- "*Aquarela ao vivo: Conservação de biodiversidade marinha*" – Interview: YouTube channel of Univ. Uberlandia (Brazil) as part of an event on environmental conservation while watercolor painting. Available at: https://youtu.be/PnXn4QLQwCQ
- *"$2M grant to research selenium, fat cell and obesity connections*" - Article in *UH News* [Online], written by Marcie Grabowski. Available at: https://www.hawaii.edu/news/2021/06/01/selenium-fat-cell-obesity-research/
- "*COVID-19: Data indicate survival rates are higher in regions with diets sufficient in selenium*" - Article in *JABSOM News - UH Med Now* [Online], written by UH Med Now team. Available at: https://jabsom.hawaii.edu/covid-19-data-indicates-survival-rates-are-higher-in-regions-with-diets-sufficient-in-selenium/
- "*2018 Biomedical Sciences and Health Disparities Dean's Award Recipients Announced*" - Article in *JABSOM News - UH Med Now* [Online], written by UH Med Now team. Available at: https://jabsom.hawaii.edu/2018-biomedical-sciences-and-health-disparities-deans-award-recipients-announced/
- *"Bringing gender equity into research"* – Interview for ThinkTech Hawaii hosted by Jay Fidell [Online]. Available at: https://www.youtube.com/watch?v=8Hs6THB7iqs
- Radio Show Guest, Bytemarks Café: *"Science 2.0"*. Apr 4, 2011, KIPO, Hawaii Public Radio, Honolulu, HI
- Videoartist and presenter: *"Underwater Rainbow",* Part of "ENDO's Got Talent" Session – The Endocrine Society 93rd Annual Meeting – 2011, Boston, MA, USA.