Stanford

Sooyeon Lee

Instructor, Medicine - Endocrinology, Gerontology, & Metabolism

Bio

ACADEMIC APPOINTMENTS

- Instructor, Medicine - Endocrinology, Gerontology, & Metabolism

HONORS AND AWARDS

- Glenn Foundation for Medical Research Postdoctoral Fellowships in Aging Research, American Federation for Aging Research (AFAR) (2021-22)
- Young Investigator Scientific Achievement Award, Rachmiel Levine-Arthur Riggs Diabetes Symposium (2019)
- NIH T32 Endocrinology Training Grant, Stanford School of Medicine (2018-2020)
- SDRC Best Poster Award, Stanford Frontiers in Diabetes Research (2018)
- College of Medicine Dean Award, Penn State College of Medicine (2016)
- D. Eugene Rannels Award for Outstanding Doctoral Dissertation in Physiology, Pennsylvania State University (2016)
- Cell and Molecular Physiology Robert Gunn Award, The American Physiological Society (2016)
- ASN Emerging Leaders in Science Award, American Society for Nutrition (2016)
- Endocrinology and Metabolism Campbell Award, The American Physiological Society (2015)
- ASN Emerging Leaders in Science Award, American Society for Nutrition (2015)
- Epithelial Transport Meritorious Travel Award, The American Physiological Society (2015)
- Howard Morgan Travel Award, Penn State College of Medicine (2015)
- Selected Student Presentation Award, International Society for Zinc Biology (2014)
- Huck Institute Graduate Enrichment Fund, Pennsylvania State University (2014-2016)
- Vitamins & Minerals RIS Poster Competition Award, Experimental Biology Boston, MA (2013)
- Graham Robert Endowed Fellowship, Pennsylvania State University (2011-2013)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, American Society for Nutrition (2014 - present)
- Member, American Physiological Society (2013 - present)

Publications

PUBLICATIONS

- **Succinate Dehydrogenase-Deficient Cancer Cells Have Increased Susceptibility to Ym155-Induced DNA Damage.** *Endocrine-related cancer*
  Guo, Q., Lee, S., Armstrong, N., Lim, B., Schugar, R. C., Tomz, D., Xu, H., Zhen, A., Needleman, L., Kebebew, E., Annes, J. P.
  2026

- **Functional Characterization of SDHB Variants Clarifies Hereditary Pheochromocytoma and Paraganglioma Risk and Genotype-Phenotype Relationships.** *The Journal of clinical investigation*
  Lee, S., Needleman, L., Park, J., Schugar, R. C., Guo, Q., Ford, J. M., Annes, J. P.
  2025
- **Pharmacologic stimulation of insulin granule acidification increases β-cell zinc content and augments β-cell-targeted drug delivery.** *The Journal of biological chemistry*
  Lee, S., Fraser, H. P., Schugar, R. C., Xu, H., Horton, T. M., Thomson, E. A., Park, J., Zhang, X., Annes, J. P.
  2025: 110645
- **Intermittent Low-Magnitude Pressure Applied Across Macroencapsulation Devices Enables Physiological Insulin Delivery Dynamics.** *Diabetes*
  Thomson, E. A., Lee, S., Xu, H., Moeller, H., Sands, J., Lal, R. A., Annes, J. P., Poon, A. S.
  2025
- **Overcoming Limitations Of Identifying Proliferating β-cells In Dispersed Primary Islets Culture For Drug Discovery**
  Xu, H., Rebecca, S., Lee, S., Annes, J. P.
  ENDOCRINE SOC.2024: A456
- **beta-Cell Succinate Dehydrogenase Deficiency Triggers Metabolic Dysfunction and Insulinopenic Diabetes.** *Diabetes*
  Lee, S., Xu, H., Van Vleck, A., Mawla, A. M., Li, A. M., Ye, J., Huising, M. O., Annes, J. P.
  2022
- **Novel Pathogenic de novo INS p.T97P Variant Presenting with Severe Neonatal DKA.** *Endocrinology*
  Lal, R. A., Moeller, H. P., Thomson, E. A., Horton, T. M., Lee, S., Freeman, R., Prahalad, P., Poon, A. S., Annes, J. P.
  2021
- **Mitochondrial Dysfunction Promotes Diabetes via A Previously Unrecognized Mechanism: Protein Succinylation**
  Lee, S., Annes, J.
  WILEY.2020
- **A genetic variant in SLC30A2 causes breast dysfunction during lactation by inducing ER stress, oxidative stress and epithelial barrier defects** *SCIENTIFIC REPORTS*
  Lee, S., Zhou, Y., Gill, D. L., Kelleher, S. L.
  2018; 8: 3542
- **CC-401 Promotes β-Cell Replication via Pleiotropic Consequences of DYRK1A/B Inhibition.** *Endocrinology*
  Abdolazimi, Y. n., Lee, S. n., Xu, H. n., Allegretti, P. n., Horton, T. M., Yeh, B. n., Moeller, H. P., Nichols, R. J., McCutcheon, D. n., Shalizi, A. n., Smith, M. n., Armstrong, N. A., Annes, et al
  2018
- **Zinc-Chelating Small Molecules Preferentially Accumulate and Function within Pancreatic β Cells.** *Cell chemical biology*
  Horton, T. M., Allegretti, P. A., Lee, S. n., Moeller, H. P., Smith, M. n., Annes, J. P.
  2018
- **Genetic Disruption of Adenosine Kinase in Mouse Pancreatic ß-Cells Protects Against High Fat Diet-Induced Glucose Intolerance.** *Diabetes*
  Navarro, G., Abdolazami, Y., Zhao, Z., Xu, H., Lee, S., Armstrong, N. A., Annes, J. P.
  2017
- **Zinc transporter 2 interacts with vacuolar ATPase and is required for polarization, vesicle acidification, and secretion in mammary epithelial cells.** *The Journal of biological chemistry*
  Lee, S. n., Rivera, O. C., Kelleher, S. L.
  2017; 292 (52): 21598–613
- **Biological underpinnings of breastfeeding challenges: the role of genetics, diet, and environment on lactation physiology.** *American journal of physiology. Endocrinology and metabolism*
  Lee, S., Kelleher, S. L.
  2016; 311 (2): E405-22
- **Molecular regulation of lactation: The complex and requisite roles for zinc.** *Archives of biochemistry and biophysics*
  Lee, S., Kelleher, S. L.

2016

- **ZnT4 (SLC30A4)-null ("lethal milk") mice have defects in mammary gland secretion and hallmarks of precocious involution during lactation** *AMERICAN JOURNAL OF PHYSIOLOGY-REGULATORY INTEGRATIVE AND COMPARATIVE PHYSIOLOGY*
  McCormick, N. H., Lee, S., Hennigar, S. R., Kelleher, S. L.
  2016; 310 (1): R33-R40

- **Paradoxical zinc toxicity and oxidative stress in the mammary gland during marginal dietary zinc deficiency** *REPRODUCTIVE TOXICOLOGY*
  Bostanci, Z., Mack, R. P., Lee, S., Soybel, D. I., Kelleher, S. L.
  2015; 54: 84-92

- **Essential Role for Zinc Transporter 2 (ZnT2)-mediated Zinc Transport in Mammary Gland Development and Function during Lactation** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Lee, S., Hennigar, S. R., Alam, S., Nishida, K., Kelleher, S. L.
  2015; 290 (21): 13064-13078

- **Prolactin (PRL)-stimulated Ubiquitination of ZnT2 Mediates a Transient Increase in Zinc Secretion Followed by ZnT2 Degradation in Mammary Epithelial Cells** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Seo, Y. A., Lee, S., Hennigar, S. R., Kelleher, S. L.
  2014; 289 (34): 23653-23661