Will Skinner, PhD

Berkeley, CA | willskinner.bio

Education

PhD: University of California, Berkeley *Endocrinology* (2022)
BA: Harvard University *Organismic and Evolutionary Biology* (2009)

Areas of Scientific Expertise

Reproductive Biology, Sperm Physiology, Drug Development, Endocrinology, Cellular Metabolism, Genetics, Advanced Microscopy, Statistics, Data Analysis and Visualization.

Scientific and Technical Experience

Anther Therapeutics: *Contraceptive Development Biologist* (Jan 2025 – Present)

- Performed scientific due diligence and strategic consulting for drug development projects and fundraising.
- Successfully applied for NICHD funding to support lead optimization of a potential contraceptive compound.

Male Contraceptive Initiative: *Visiting Scientist* (Jan 2024 – Present)

- Guided decision making for a $1.5 million/year contraceptive research funding program.
- Performed extensive scientific due diligence and strategic consulting to guide in-house drug development projects.
- Successfully applied for NICHD funding to support lead optimization of a potential contraceptive compound.
- Coordinated a regulatory working group for best practices & FDA guidance on male contraceptive development.
- Supported scientific communication efforts, advocating for male contraception in technical and public media.

Lishko Lab, UC Berkeley, Berkeley, CA: *Graduate Student* (2019 – 2023)

- Published four papers in top scientific journals on sperm metabolism, sperm-egg fusion, and structural biology.
- Patented a novel mitochondrial approach for sperm-targeted contraception, which was subsequently outlicensed.
- Successfully applied for fellowship funding from the NSF and other grantmaking organizations.
- Completed advanced training in reproductive biology, and reviewed manuscripts for multiple publications.

Garrison Lab, Buck Institute for Aging, Novato, CA: *Laboratory Technician* (Jan 2018 – Aug 2018)

- Designed and optimized custom protocols for RNA extraction and RT-qPCR analyses to investigate neuropeptide expression in C. elegans and validate CRISPRi sgRNA design in mouse brain cells.

Vesper Environmental, LLC, West Sand Lake, NY: *Data Analyst* (2011 – 2012)

- Managed and analyzed telemetry and GIS data from the largest-ever radio tracking survey of the endangered Indiana Bat (*Myotis sodalis)*, conducted in Illinois in April 2011.

E2G Solar, LLC, West Sand Lake, NY: *Managing Editor, Co-Author, Analyst* (2006 – 2011)

- Co-authored, managed, and edited a textbook: *Solar Hot Water Fundamentals: Siting, Design, and Installation.* Authored chapters on the physics of solar energy, component design, and more.
- Performed statistical analyses of solar system performance in efficiency comparison studies.

Mathews Lab, Harvard University Herbarium, Cambridge, MA: *Research Assistant* (2009 – 2010)

- Investigated the phylogenetic relationships within the genus *Trimenia,* using techniques including PCR optimization, plasmid transfection, gel electrophoresis and SNP alignment.

Publications & Patents

- *The Contraceptive Product Pipeline: Where We Are and What We've Learned.* (2025, **Gates VeriXiv**) E. Hoppes, A. Fratus, W. Skinner, L. Nickels, L. Hertel, K. Nanda, and D. Goldberg.
- "Committee for Male Contraceptive Development and Regulatory Best Practices Draft Recommendations" (2025, **Male Contraceptive Initiative**) E. Gardner, W.Skinner, et al.
- *Mitochondrial uncouplers impair human sperm motility without altering ATP content*. (2023, **Biology of Reproduction**) W. Skinner, N. Petersen, B. Unger, S. Tang, L. Jalalian, J. Smith, A. Bertholet, K. Xu, P. Lishko.
- *De novo protein identification in mammalian sperm using in situ cryo-electron tomography and AlphaFold2 docking.* (2023, **Cell**) Z. Chen, M. Shiozaki, K. Haas, W. Skinner, S. Zhao, C. Guo, B. Polacco, Z. Yu, N. Krogan, P. Lishko, R. Kaake, R. Vale, and D. Agard.
- *In situ cryo-electron tomography reveals the asymmetric architecture of mammalian sperm axonemes*. (2023, **Nature Structural and Molecular Biology**) Z. Chen, G. Greenan, M. Shiozaki, Y. Liu, W. Skinner, X. Zhao, S. Zhao, C. Guo, Z. Yu, P. Lishko, D. Agard, and R. Vale.

- *Human sperm TMEM95 binds eggs and facilitates membrane fusion*. (2022, **PNAS**) S. Tang, Y. Lu, W. Skinner, M. Sanyal, P. Lishko, M. Ikawa, P. Kim.
- *"Nonhormonal Unisex Contraceptives"* **US Patent #20210369652 A1**. (2021) P. Lishko, W. Skinner, L. Khasin, E. Tabarsi, A. Bertholet, Y. Kirichok.
- *Single-cell Motility Analysis of Tethered Human Spermatozoa.* (2019, **Bio Protocol**). W. Skinner, N. Mannowetz, P. Lishko, and N. Roan.
- *Solar Hot Water Fundamentals.* Textbook, E2G Publishing (2011) P. Skinner, T. Paternoster, W. Skinner, A. Paul, B. Wyman.

Fellowships & Awards

- Male Contraceptive Initiative Scholarship Award (2022)
- Accepted to Frontiers in Reproductive Biology course at Woods Hole Marine Biological Laboratory (2022)
- Emerging Leaders in Contraceptive Technology Innovation Fellow (2022)
- UC Berkeley Center for Emerging and Neglected Diseases Fellow (2021)
- **National Science Foundation Graduate Research Fellow** (2019)
- UC Berkeley Cell and Developmental Biology retreat best presentation award (2019)

Presentations & Reviewer Positions

- Grant reviewer, Male Contraceptive Initiative (2022-Present)
- Invited reviewer, Frontiers in Endocrinology and Cell Research (2021)
- Poster Presentation, Gates Foundation Grand Challenges Convening: "*Targeting Sperm-Specific Proteins Could Lead to Non-hormonal, Unisex Contraceptives*" Brussels, Belgium (2022)
- Podium Presentation, Gordon Research Seminar, Fertilization and Activation of Development (2019)
- Podium Presentation, UC Berkeley Cell and Developmental Biology retreat (2019)
- Poster Presentation, Bay Area Aging Meeting: "*Investigating the Role of Oxytocin Signaling in Aging*" (2018)

Nonprofit & Management Experience

GLOW & California Masonic Foundation, San Francisco, CA: *Program Manager* (2012 – 2016)

- Planned, designed, managed, and wrote a large interactive online tool that guides students and families through the college financial aid application process.

New Sector Alliance, San Francisco, CA: *Fellow, 2013 Residency in Social Enterprise* (2012 – 2013)

- Social entrepreneurship fellowship focused on developing young professionals in the social sector.

Bay Area Climbers Coalition, Berkeley, CA: *East Bay Steward* (2022 – Present)

- Organized and led outdoor volunteer cleanups and stewardship projects at climbing areas around the Bay Area.
- Successfully applied for a grant to fund rebolting efforts at local climbing areas.

Professional Musician, Berkeley, CA: *Bandleader, Songwriter, Performer* (2013 – Present)

- Led and managed two bands through successful funding campaigns, album releases, and nationwide tours. Necessary skills included project and personnel management, business and financial planning, marketing, audio engineering, and event production.

Seeds of Peace, Middle East; Otisfield, ME; Atlantic Ocean: *Organizer and Counselor* (2009 – 2013)

- Organized and facilitated conflict resolution activities for groups of teenagers from conflict regions, such as the Middle East, Afghanistan, Pakistan, and India.
- Planned and implemented a new leadership and dialogue summer program in the Middle East.
- In a five-person team, founded and ran an advanced communication and leadership program for Israeli, Palestinian, and American students, called *Seas of Peace*. The program used a tall ship as a classroom for our unique teambuilding and leadership curriculum while sailing in the Atlantic Ocean.

Instructional Experience

Skinner Academic Tutoring, Cambridge, MA, and Berkeley, CA: *Founder, Tutor* (2006 – Present)

- Designed and delivered custom curricula for high school students, college students, and adults in biology, chemistry, math, physics, writing, history, and standardized test taking. Specialized in helping students develop high-level executive problem-solving skills.

UC Berkeley ATDP and **Summit Charter,** Berkeley, CA: *Science Instructor* (Summer 2015 – 2016)

- Crafted and taught inquiry-based chemistry and biology lab courses for talented high school students.
- Designed and led enrichment courses for middle and high school students in math, engineering, and creative problem solving.