

Dr. Steen Kian Thye Ooi

Founder, CEO & Chief Scientific Officer | Livestock Labs

Wilmington, Delaware ·



PROFESSIONAL SUMMARY

Founder, CEO, and Chief Scientific Officer of Livestock Labs. Genome engineer and cell biologist with more than 25 years of experience across mammalian cell biology, genome regulation, epigenetics, tissue culture, and livestock cell-line development. Former Lead Scientist of the Porcine Cell Engineering Division at New Age Eats. Prior academic appointments include University College London, Columbia University, and UCLA. Track record includes major competitive research funding, high-impact peer-reviewed publications, invited review work for leading scientific journals, grant review for major funding bodies, and technical leadership in cultivated meat cell-line development.

PROFESSIONAL EXPERIENCE

Livestock Labs

2023 – Present

Founder, CEO & Chief Scientific Officer · Wilmington, Delaware

- Founded Livestock Labs to develop, own, and license engineered livestock cell lines for cultivated meat and adjacent cell-based animal product markets.
- Leads Livestock Labs' technical platform across genome engineering, livestock cell culture, cell-line characterization, R&D strategy, scientific diligence, and technical partnerships.

New Age Eats

2022 – 2023

Lead Scientist, Porcine Cell Engineering Division · Berkeley, California

- Led New Age Eats' porcine cell engineering work for cultivated meat, developing and characterizing livestock cell lines while building the assay and performance-evaluation workflows needed to assess their commercial relevance.

UCLA Institute for Society and Genetics

2018 – 2022

Assistant Project Scientist · Los Angeles, California

- Developed and used in vitro mammalian germ-cell models to study how environmental toxicants disrupt early cell fate and developmental biology, resulting in peer-reviewed work in Environmental Health Perspectives.

University College London, Cancer Institute

2010 – 2018

Principal Research Fellow · London, United Kingdom

- Led an independently funded mammalian genome-regulation program, securing major competitive funding while studying the epigenetic mechanisms that control cell identity, differentiation, and genome stability.

Columbia University, College of Physicians and Surgeons

2004 – 2010

Postdoctoral Scientist, Advisor: Prof. Timothy Bestor · New York, New York

- Investigated the molecular mechanisms controlling de novo DNA methylation, pluripotent stem-cell regulation, and mammalian genome programming, producing high-impact publications across *Nature*, *Science*, *Nature Genetics*, and *Cell*.

University College London

2000 – 2004

Graduate Student, Supervisor: Dr. Victor Tybulewicz · London, United Kingdom

- Studied the role of Rac GTPases in B cell development and activation.

SELECTED FUNDING & FELLOWSHIPS

- **ERC Starting Grant**, approximately £1.1M, focused on X chromosome regulation of DNA methylation in pluripotent stem cells
- **BBSRC David Phillips Fellowship**, focused on epigenetic establishment and maintenance in mammals

- **The Innovation Space Early-Stage Growth Grant**, awarded to Livestock Labs, up to \$240,000
- **CRUK-UCL Centre Development Fund**, £20,000

SCIENTIFIC RECOGNITION & PEER REVIEW

- Invited reviewer for leading journals including *Nature*, *Science*, *Cell*, *Nature Genetics*, *Nucleic Acids Research*, *Genes & Development*, *Genome Research*, *Cell Reports*, *PLoS Genetics*, *EMBO Journal*, *Development*, *Molecular and Cellular Biology*, *PLoS Pathogens*, and *Biology of the Cell*.
- Grant reviewer for major scientific funding bodies including the Medical Research Council, Wellcome Trust, National Science Foundation, and American Institute for Cancer Research.
- External examiner for PhD candidates at the University of Leicester and UCL / Whitehead Institute.
- Member of The Genetics Society, UK, and the British Society for Immunology.

TEACHING & MENTORING

- Taught UCL courses in cancer biology, cancer therapeutics, cancer epigenetics, genome integrity, DNA methylation, and epigenetic regulation.
- Mentored PhD, MD-PhD, masters, undergraduate, and summer research students across genetics, cancer biology, epigenetics, mammalian cell biology, and molecular biology.

ORAL PRESENTATIONS

- Global Finalist, "Creating the World, Sailing to the Future," Innovation & Entrepreneurship Competition for Overseas Talents, Hangzhou, China, 2024.
- Selected abstract, "Physiologically Relevant Bisphenol A Levels Alter the Developmental Trajectory of an In Vitro Model of Mouse Primordial Germ Cells," Beyond Genes, The Online Conference on Non-Genetic Inheritance in Human Disease, 2020.
- Selected abstract, "A novel role for Microprocessor component Drosha in Cytosine Methylation," GRC Mammalian Reproduction, Waterville, NH, 2016.
- Invited speaker, "Regulation of DNA methylation in mammals," Department of Genetics, University of Georgia, 2015.
- Selected speaker, "Understanding mechanisms regulating DNA methylation: Moving beyond DNA methyltransferases," UCI 4th Annual Conference Day, Wolfson Institute for Biomedical Research, London, 2011.
- Invited speaker, "Understanding regulation of DNA methylation in mammals," EpiNova DPU, GlaxoSmithKline, Stevenage, 2011.
- Invited speaker, "Understanding regulation of DNA methylation in mammals," Blizard Institute of Cell and Molecular Science, Barts and The London School of Medicine and Dentistry, 2010.
- Invited speaker, "Investigating the mechanism of DNMT3L-mediated de novo methylation," Union for International Cancer Control, Chicago, 2008.
- Invited speaker, "DNMT3L in de novo DNA methylation," FASEB Summer Research Conference, Biological Methylation: From DNA to Histones, Carefree, Arizona, 2008.

SELECTED PUBLICATIONS

- Ooi, S.K.T., Jiang, H., and Allard, P. "Physiologically-relevant Bisphenol A levels alter the developmental trajectory of an in vitro model of mouse Primordial Germ Cells." *Environmental Health Perspectives*, 2021, 129(9), 97013–97027.
- Chhetri, J.B., Drosioti, E., Guerra-Assunção, J.A., Herrero, J., and Ooi, S.K.T. "Generation of a Cancer Testis Antigen (CTA) mCherry reporter HCT116 colorectal carcinoma cell line." *Heliyon*, 2018, 4, 10.
- Stathopoulou, A., Chhetri, J.B., Ambrose, J.C., Leixang, J., Edjument-Bromage, H., Zhan, G., Esteve, P.O., Neubert, T.A., Pradhan, S., Herrero, J., Schmitz, R.J., and Ooi, S.K.T. "A novel requirement for DROSHA in maintenance of mammalian CG methylation." *Nucleic Acids Research*, 2017, 45, 9398–9412.
- Vlachogiannis, G., Niederhuth, C.E., Tuna, S., Stathopoulou, A., Viiri, K., de Rooij, D.G., Jenner, R.G., Schmitz, R.J., and Ooi, S.K.T. "The Dnmt3L ADD controls cytosine methylation establishment during spermatogenesis." *Cell Reports*, 2015, 10, 944–956.
- Stathopoulou, A., Lucchiari, G., and Ooi, S.K.T. "DNA methylation is dispensable for suppression of the Agouti viable yellow controlling element in murine embryonic stem cells." *PLOS ONE*, 2014, 9, e107355.
- Kao, T.H., Liao, H.F., Wolf, D., Tai, K.Y., Chuang, C.Y., Lee, H.S., Kua, H.C., Hata, K., Zhang, X., Cheng, X., Goff, S.P., Ooi, S.K.T., Bestor, T.H., and Lin, S.P. "Ectopic DNMT3L triggers assembly of a repressive complex for retroviral silencing in somatic cells." *Journal of Virology*, 2014, 88, 10680–10695.
- Stadtfeld, M., Apostolou, E., Ferrari, F., Choi, J., Walsh, R.M., Chen, T., Ooi, S.K.T., Kim, S.Y., Bestor, T.H., Shioda, T., et al. "Ascorbic acid prevents loss of Dlk1-Dio3 imprinting and facilitates generation of all-iPS cell mice from terminally differentiated B cells." *Nature Genetics*, 2012, 44, 831.
- Ooi, S.K.T., Wolf, D., Hartung, O., Agarwal, S., Daley, G.Q., Goff, S.P., and Bestor, T.H. "Dynamic instability of genomic methylation patterns in pluripotent stem cells." *Epigenetics & Chromatin*, 2010, 3, 17.
- Ooi, S.K.T., O'Donnell, A.H., and Bestor, T.H. "Mammalian cytosine methylation at a glance." *Journal of Cell Science*, 2009, 122, 2787.
- Ooi, S.K.T. and Bestor, T.H. "The colourful history of active DNA methylation." *Cell*, 2008, 133, 1145–1148.
- Ooi, S.K.T. and Bestor, T.H. "Cytosine methylation: Remaining faithful." *Current Biology*, 2008, R174–R176.

- Ooi, S.K.T., Qiu, C., Bernstein, E., Li, K., Jia, D., Yang, Z., Erdjument-Bromage, P., Tempst, P., Lin, S., Allis, C.D., Cheng, X., and Bestor, T.H. "DNMT3L connects unmethylated lysine 4 of histone H3 to de novo methylation of DNA." *Nature*, 2007, 448, 714–717.
- Schaefer, C.B., Ooi, S.K.T., Bestor, T.H., and Bourc'his, D. "Epigenetic decisions in mammalian germ cells." *Science*, 2007, 316, 398–399.
- Damelin, M., Ooi, S.K.T., and Bestor, T.H.B. "Combing over heritable gene silencing." *Nature Structural & Molecular Biology*, 2006, 13, 100–101.
- Wells, C.M., Walmsley, M., Ooi, S.K.T., Tybulewicz, V., and Ridley, A.J. "Rac1-deficient macrophages exhibit defects in cell spreading and membrane ruffling but not migration." *Journal of Cell Science*, 2004, 117, 1259–1268.
- Walmsley, M., Ooi, S.K.T., Reynolds, L.F., Smith, S.H., Ruf, S., Vanes, L., Mathiot, A., Roberts, A., Williams, D., and Tybulewicz, V.L.J. "Critical roles for Rac1 and Rac2 GTPases in B cell development and signalling." *Science*, 2003, 302, 459. First co-author.

EDUCATION

University College London

2000 – 2004

PhD, Biochemistry · London, United Kingdom

University of Cambridge, Sidney Sussex College

1997 – 2000

BA, Natural Sciences, Part II Genetics · Cambridge, United Kingdom