

Chen, Lu Ph.D. in Biochemistry and Molecular Biology

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Education and Professional Experience

2021 Sept - : Assistant Professor, Cancer Epigenetics Institute (CEI), Cancer Signaling and Epigenetics (CSE) Program,
Fox Chase Cancer Center, Pennsylvania, USA

2020 - 2021: Instructor, Stanford Cancer Institute, **Stanford Cancer Institute**, Stanford, California, USA

2013 - 2019: Postdoctoral Fellow, Department of Biochemistry; Department of Medicine-Division of Hematology;
Stanford University, Stanford, California, USA (Steven Artandi laboratory)

2007 - 2013: Ph.D. in Biochemistry and Molecular Biology (with Honors), University of Kansas Medical Center;
Stowers Institute for Medical Research, Kansas City, Missouri, USA (Joan and Ronald Conaway laboratory)

2002 - 2006: B.S. in Biological Sciences (with honor), College of Life Sciences, **Wuhan University**, Wuhan, China

Publications

1. **Chen L***†, Roake CM†, Maccallini P, Bavasso F, Dehghassasiri R, Santonicola P, Mendoza-Ferreira N, Satolini L, Rizzuti L, Esposito A, ..., Salzman J, Pellizzoni L, Wirth B, Di Schiavi, E, Gatti M, Artandi SE*, Raffa GD*. TGS1 controls snRNA 3' end processing, prevents neurodegeneration and ameliorates SMN-dependent neurological phenotypes in vivo. *Nucleic Acids Research* 2022 Aug 10 (*co-corresponding author) doi.org/10.1093/nar/gkac659
2. **Chen L***, Chang HY, and Artandi SE. Analysis of RNA conformation in endogenously assembled RNPs by icSHAPE. *STAR Protocols* 2 (2), 100477 (*co-corresponding author)
3. **Chen L***, Bellone RR, Wang Y, Singer-Berk M, Ford JM, Artandi SE. A novel DDB2 mutation causes defective recognition of UV-induced DNA damages and prevalent equine squamous cell carcinoma. *DNA Repair* 2020 Nov 12: 103022 (* corresponding author)
4. **Chen L**, Roake CM, Galati A, Bavasso F, Saggio I, Schoeftner S, Cacchione S, Gatti, M, Artandi SE*, Raffa GD*. Loss of Human TGS1 Hypermethylase Promotes Increased Telomerase RNA and Telomere Elongation. *Cell Reports* 2020 Feb 04; 30: 1358-1272 (Highlighted in *BioArt*, 2020 Feb 08)
5. **Chen L**, Roake CM, Freund A, Batista PJ, Tian S, Yin, YA, Gajera C, Lin S, Lee B, Pech M, Venteicher AS, Das R, Chang HY, Artandi SE. An activity switch in human telomerase dependent on RNA conformation and shaped by TCAB1. *Cell*. 2018 Jun 28;174(1):218-230.e13.
6. **Chen L**, Conaway RC, Conaway JW. Multiple modes of regulation of the human Ino80 SNF2 ATPase by subunits of the INO80 chromatin-remodeling complex. *Proc. Natl. Acad. Sci. U.S.A.* 2013 Dec 17; 110 (51):20497-20502.
7. **Chen L**, Cai Y, Jin J, Florens L, Swanson SK, Washburn MP, Conaway JW, Conaway RC. Subunit organization of the human INO80 chromatin remodeling complex: an evolutionarily conserved core complex catalyzes ATP-dependent nucleosome remodeling. *Journal of Biological Chemistry*. 2011; 286:11283-11289. (Highlighted in "*Milestones in transcription and chromatin published in the Journal of Biological Chemistry*", 2019 Feb 1;294(5):1652-1660.)
8. **Chen L**, Ooi SK, Conaway RC, Conaway JW. Generation and purification of human INO80 chromatin remodeling complexes and subcomplexes. *Journal of Visualized Experiments*. 2014 Oct 23;(92). doi: 10.3791/51720.
9. **Chen L**, Ooi SK, Conaway RC, Conaway JW. Biochemical assays for analyzing activities of INO80 chromatin remodeling enzymes. *Journal of Visualized Experiments*. 2014 Oct 25;(92). doi: 10.3791/51721.
10. Roake CM, **Chen L**, Chakravarthy A, Raffa G, Artandi SE. Disruption of Telomerase RNA Maturation Kinetics Precipitates Disease. *Molecular Cell*. 2019 May 16;74(4):688-700.e3.
11. Lin S, Nascimento EM, Gajera C, **Chen L**, Neuhoefer P, Garbuzov A, Wang S, Artandi SE. Distributed hepatocytes expressing telomerase repopulate the liver in homeostasis and injury. *Nature*. 2018 Apr;556(7700):244-248. (Comment in *Nature*. 2018 Apr;556(7700):181-182; *Nat Rev Gastroenterol Hepatol*. 2018 Jun;15(6):328; *Transplantation*. 2018 Oct;102(10):1587-1588; *Arch Toxicol*. 2019 Dec;93(12):3633-3634.)

12. Vaidyanathan S, Baik R, **Chen L**, Bravo DT, Suarez CJ, Abazari SM, Salabudeen AA, Dudek AM, Teran CA, Davis TH, Lee CM, Bao G, Randell SH, Artandi SE, Wine JJ, Kuo CJ, Desai TJ, Nayak JV, Sellers ZM, Porteus MH. Targeted replacement of full-length CFTR in human airway stem cells by CRISPR/Cas9 for pan-mutation correction in the endogenous locus. *Molecular Therapy* 2021 Mar 29;S1525-0016(21)00152-0.
13. Galati A, Micheli E, Bavasso, F, Cicconi A, Maccallini P, Scatolini L, **Chen L**, Roake C, Schoeftner S, Artandi SE, Gatti M, Cacchione S, Raffa GD. The S-adenosylmethionine analog Sinefungin inhibits the trimethylguanosine synthase TGS1 to promote telomerase activity and telomere lengthening. *FEBS Letter* 2022 Jan;596(1):42-52.
14. Chen J, **Chen L**, Wang G, Tang H. Cholesterol-Dependent and -Independent CD40 Internalization and Signaling Activation in Cardiovascular Endothelial Cells. *Arteriosclerosis Thrombosis and Vascular Biology*.2007,27(9):2005-13.
15. Sela D, **Chen L**, Martin-Brown S, Washburn MP, Florens L, Conaway JW, Conaway RC. Endoplasmic reticulum stress-responsive transcription factor ATF6 α directs recruitment of the Mediator of RNA polymerase II transcription and multiple histone acetyltransferase complexes. *Journal of Biological Chemistry*. 2012 Jun 29; 287(27):23035-45.
16. Wang L, Limbo O, Fei J, **Chen L**, Kim B, Luo J, Chong J, Conaway RC, Conaway JW, Ranish JA, Kadonaga JT, Russell P, Wang D. Regulation of the Rhp26ERCC6/CSB Chromatin Remodeler by a Novel Conserved Leucine Latch Motif. *Proc. Natl. Acad. Sci. U.S.A.* 2014 Dec 30;111(52):18566-71.
17. Sela D, Konkright JJ, **Chen L**, Gilmore J, Washburn MP, Florens L, Conaway RC, Conaway JW. Role for human mediator subunit MED25 in recruitment of mediator to promoters by endoplasmic reticulum stress-responsive transcription factor ATF6 α . *Journal of Biological Chemistry*. 2013 Sep 6; 288(36):26179-87.

Invited/Selected Talks

1. April 7, 2022: invited speaker, Third Chromatin Club Miami, University of Miami, Sylvester Comprehensive Cancer Center, and Active Motif.
2. Nov 11, 2021: Invited Seminar Speaker, Department of Mechanical Engineering, Rochester Institute of Technology, Rochester, NY
3. Jun 27, 2019: Invited Speaker, School of Life Sciences, Peking University/ PKU-Tsinghua Joint Center for Life Sciences, Beijing
4. Jun 26, 2019: Invited Speaker, School of Life Sciences, Tsinghua University/ Tsinghua-PKU Joint Center for Life Sciences, Beijing
5. Apr 29, 2019: Invited Speaker, Shanghai Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences (SIBCB-CAS), Shanghai
6. Apr 27, 2019: Selected speaker (Selected 5/140), International Research Forum 2019, Shanghai Jiao Tong University School of Medicine, Shanghai
7. Apr 28, 2019: Invited Speaker, Department of Biochemistry and Molecular Cell Biology, Shanghai Jiao Tong University, Shanghai
8. Apr 22, 2019: Invited Speaker, Institute of Genetics and Developmental Biology, Chinese Academy of Sciences (IGDB-CAS), Beijing
9. Apr 18, 2019: Invited Speaker, School of Life Sciences, Peking University, Beijing
10. Aug 7, 2018: Invited Speaker, LCB seminar series, NIH/National Cancer Institute/Center for Cancer Research (NCI/CCR), Bethesda, MD
11. May 4, 2018: Selected micro-talk (Selected 20/136), European Molecular Biology Organization (EMBO) workshop on "Telomere Biology in Human Diseases", Tróia, Portugal
12. May 2, 2017: Selected Speaker, The 10th Cold Spring Harbor meeting on "Telomeres and Telomerase", Cold Spring Harbor Laboratory, New York, NY
13. Mar 31, 2017: Invited Speaker, The 1st Annual Chromosome Dynamics and Genome Maintenance Symposium, Stanford University, Stanford, CA

14. Jan 16, 2010: Invited Speaker, Institute of Genetics and Developmental Biology, Chinese Academy Sciences (IGDB-CAS), Beijing

Editorial Activities

2021 Reviewer, *Star Protocols (cell press)*
 2018 Reviewer, *Cancer Management and Research*
 2017-2018 Reviewer, *OncoTargets and Therapy*
 2017- Peer Review Board member, *Journal of Visualized Experiments*
 2017- Scientific Editor and Editorial Board member, *Cancer Translational Medicine*
 2017 Reviewer, *Clinical Interventions in Aging*
 2016-2017 Reviewer, *Protein Expression and Purification*
 2011 Reviewer, *Journal of Biological Chemistry*

Honors and Awards

1. July 1, 2018 (Top 4/40)

Career-transition Fellowship Award in Cancer Research, Stanford Cancer Institute, Stanford, CA

Award Dollar: \$46,300/year

2. Sept 10, 2013 (Top 2/20)

Honors in Ph.D. thesis and defense, Department of Biochemistry and Molecular Biology, University of Kansas Medical Center, Kansas City, KS

3. Mar 28-29, 2011 (Top 6/100)

Honorable Mention of Poster Presentation, 6th Annual Young Investigator Research Day, Stowers Institute for Medical Research, Kansas City, MO

Award Dollar: \$150

4. Sept 30- Oct 04, 2010: (Top 2/200)

Best Poster Award at the ASBMB (*American Society for Biochemistry and Molecular Biology*) Special Symposium, entitled "Transcriptional Regulation by Chromatin and RNA Polymerase II", Tahoe City, CA

Award Dollar: \$1,000

Research Support

R21 AI164333, Role: co-Investigator

04/01/2022-03/31/2024

NIH/NIAID (\$106,000 direct cost to FCCC)

Defining role of Long non-coding RNA (LncRNA) GM15417 in iNKT development and subset differentiation.

Teaching and Mentorship activities

POST-DOCTORAL FELLOWS AND OTHER SCIENTISTS SUPERVISED

Fox Chase Cancer Center

Soon-keat Ooi, PhD

Next position: Postdoc, University of Pennsylvania, Philadelphia, PA

2021-2022

Fox Chase Cancer Center

Marie Kobin

Jeanne E. and Robert F. Ozols Undergraduate Summer Research Fellowship

Next position: BS in biochemistry, Cornell University, Ithaca, NY

2022-

TEACHING

Instructor, Research Compliance and Integrity (RCI) course, FCCC	10/26/2021
Host, Steppingstone Scholars - underserved Philadelphia high schoolers	01/12/2022
Instructor, Summer Research Fellow from the University of Delaware	06/02/2022
Host, The Franklin Institute, Youth Program	08/2022

Committees and Services

Workgroup/Committee in Bioinformatics, Fox Chase Cancer Center	2021-now
Workgroup/Committee in Cancer Aging Institute, Fox Chase Cancer Center	2021-now