

CURRICULUM VITAE

MINGYI XIE

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EDUCATION

- 2010 Ph.D., **Arizona State University**, Tempe, Arizona
Major: Biochemistry
- 2004 B.S., **Xiamen University**, Xiamen, China
Major: Biology

RESEARCH EXPERIENCE

- 2016–present Assistant Professor
Department of Biochemistry and Molecular Biology
University of Florida, Gainesville, Florida
- 2010–2016 Postdoc Fellow with **Dr. Joan A. Steitz**
Department of Molecular Biophysics and Biochemistry
Yale University, New Haven, Connecticut
- 2005–2010 Graduate Research with **Dr. Julian J.L. Chen**
Department of Chemistry and Biochemistry
Arizona State University, Tempe, Arizona
- 2002 –2004 Undergrad Research Assistant
Ministry of Education Key Laboratory for Costal and Wetland Ecosystems
Xiamen University, China

RESEARCH GRANTS

- 2018–2023 **NIGMS**. Maximizing Investigator's Research Award (**R35**)
- 2018–2020 **University of Florida**. Research Opportunity Seed Fund Award
- 2018–2020 **Thomas H. Maren Foundation**. Junior Faculty Award
- 2014–2019 **National Cancer Institute**. Pathway to Independence Award (**K99/R00**)
- 2012–2015 **Leukemia and Lymphoma Society**. Postdoctoral Fellowship
- 2010–2011 **Leslie H. Warner Cancer Research Foundation**. Postdoctoral Fellowship

TEACHING EXPERIENCE

- 2019–present Lecturer, Advanced Gene Regulation (course number: BCH 7410)
- 2018–present Lecturer, Graduate Program in Biomedical Sciences core course (course number:GMS 6001)
- 2017–present Lecturer, Advanced Molecular and Cellular Biology (course number:BCH 6415)
Lecturer, Eukaryotic Molecular Biology and Genetics (course number:BCH 5413)
- 2016–present Mentor of three postdoctoral fellows, four graduate students,
and ten undergraduate students
Department of Biochemistry and Molecular Biology
University of Florida, Gainesville, Florida
- 2011–2016 Mentor of two graduate students and three undergraduates
Joan Steitz Lab, Department of Molecular Biophysics and Biochemistry
Yale University, New Haven, Connecticut

- 2005–2010 Mentor of four undergraduates
Julian Chen Lab, Department of Chemistry and Biochemistry
Arizona State University, Tempe, Arizona
- 2007–2010 Teaching assistant, Analytical Biochemistry Lab (course number: BCH 467)
2005–2006 Teaching assistant, Elementary Biochemistry Lab (course number: BCH 367)
Department of Chemistry and Biochemistry
Arizona State University, Tempe, Arizona

HONORS AND AWARDS

- 2014 Yale RNA Center Travel Grant. Yale University, New Haven, Connecticut
- 2009 Graduate College Travel Grant. Arizona State University, Tempe, Arizona
- 2009 Outstanding Graduate Research Assistant in Biochemistry
Arizona State University, Tempe, Arizona
- 2003 Award for Advanced Individual in Extra-curricular Scientific and
Technological Activity
School of Life Sciences, Xiamen University, China

PUBLICATIONS

1. **M. Xie** and M.S. Swanson, UTter control through miRs: fine-tuning ATXN1 levels to prevent ataxia. **Genes & Development**, 34, 1107-1109 (2020).
2. P. Sheng, K. Flood and **M. Xie**, Short hairpin RNAs for strand-specific small interfering RNA production. **Frontiers in Bioengineering & Biotechnology**, 8, 940 (2020).
3. P. Nowialis*, K. Lopusna*, J. Opavska, S. L. Haney, A. Abraham, P. Sheng, A. Riva, A. Natarajan, O. Guryanova, M. Simpson, R. Hlady, **M. Xie** and R. Opavsky, Catalytically inactive Dnmt3b rescues mouse embryonic development by accessory and repressive functions. **Nature Communications** 10, 4374 (2019).
4. C.J. Fields, P. Sheng, B.R. Miller, T. Wei and **M. Xie**, Northern blot with IR-labeled probes using various labeling approaches. **Bio-protocol**, 9, e3219 (2019).
5. B.R. Miller*, T. Wei*, P. Sheng, C.J. Fields and **M. Xie**, Near-infrared fluorescent Northern blot. **RNA**, 24, 1871-1877 (2018).
6. P. Sheng, C.J. Fields, K. Aadland, T. Wei, O. Kolaczowski, T. Gu, B. Kolaczowski# and **M. Xie**#, Dicer cleaves 5'-extended microRNA precursors originating from RNA Polymerase II transcription start sites. **Nucleic Acids Research**, 46, 5737-5752 (2018).
7. K.E. Hayes, J.A. Barr, **M. Xie**, J.A. Steitz and I. Martinez, Immunoprecipitation of Tri-methylated Capped RNA. **Bio-protocol**, 8, e2717 (2018).
8. I. Martinez, K. Hayes, J. Barr, A. Harold, **M. Xie**, S.I.A. Bukhari, S. Vasudevan, J. A. Steitz and D. DiMaio, A novel Exportin-1-dependent microRNA biogenesis pathway during human cell quiescence. **Proc. Natl. Acad. Sci. U.S.A.**, 114, 4961-4970 (2017).
9. W. Zhang*, **M. Xie***, M. Shu, J.A. Steitz and D. DiMaio, A proximity-dependent assay for specific RNA-protein interactions in intact cells. **RNA**, 22, 1785-1792 (2016).
10. K.T. Tycowski*, Y.E. Guo*, N. Lee*, W.N. Moss*, T.K. Vallery*, **M. Xie*** and J.A. Steitz, Viral noncoding RNAs: more surprises. **Genes & Development**, 29, 567-584 (2015).
11. **M. Xie**, W. Zhang, M. Shu, A. Xu, D. Lenis, D. DiMaio and J.A. Steitz, The host Integrator complex acts in transcription-independent maturation of herpesvirus microRNA 3' ends. **Genes & Development**, 29, 1552-1564 (2015).
12. **M. Xie**# and J.A. Steitz, Versatile microRNA biogenesis in animals and their viruses. **RNA biology**, 11, 673-681 (2014).
13. A.F. Brown, J.D. Podlevsky, X. Qi, Y. Chen, **M. Xie** and J.J.-L. Chen, A self-regulating template in human telomerase. **Proc. Natl. Acad. Sci. U.S.A.**, 111, 11311-11316 (2014).

14. **M. Xie**, M. Li, A.Vilborg, N. Lee, M. Shu, V. Yartseva, N. Sestan and J.A. Steitz, Mammalian 5'-capped microRNA precursors that generate a single microRNA. **Cell**, 155, 1568-1580 (2013).
 15. C. Qiao, J. Ma, J. Xu, **M. Xie**, W. Ma and Y. Huang, Drosha mediates destabilization of Lin28 mRNA targets. **Cell Cycle**, 11, 3590-3598 (2012).
 16. X. Qi*, **M. Xie***, A.F. Brown*, C.J. Bley, J.D. Podlevsky and J.J.-L. Chen, RNA/DNA hybrid binding affinity determines telomerase template translocation efficiency. **EMBO Journal**, 31, 150-161 (2012).
 17. D. Cazalla, **M. Xie** and J.A. Steitz, A primate Herpesvirus uses the Integrator complex to generate viral microRNAs. **Molecular Cell**, 43, 982-992 (2011).
 18. **M. Xie**, J.D. Podlevsky, X. Qi, C.J. Bley and J.J.-L. Chen, A novel motif in telomerase reverse transcriptase regulates telomere repeat addition rate and processivity. **Nucleic Acids Research**, 38, 1982-1996 (2010).
 19. **M. Xie**, A. Mosig, X. Qi, Y. Li, P.F. Stadler and J.J.-L. Chen, Structure and function of the smallest vertebrate telomerase RNA from teleost fish. **Journal of Biological Chemistry**, 283, 2049-2059 (2008).
 20. J.K. Alder, J.J.-L. Chen, L. Lancaster, S. Danoff, S.C. Su, M. Prince, I. Vulto, **M. Xie**, X. Qi, R.M. Tuder, J.A. Phillips, P.M. Lansdorp, J.E. Loyd, and M.Y. Armanios, Short telomeres are a risk factor for idiopathic pulmonary fibrosis. **Proc. Natl. Acad. Sci. U.S.A.** 105, 13051-13056 (2008).
 21. Y. Xiang, **M. Xie**, R. Bash, J.J.-L. Chen, and J. Wang, Ultrasensitive label-free aptamer-based electronic detection. **Angew. Chem. Int. Ed.**, 46, 9054-9056 (2007).
 22. M. Armanios, J.J.-L. Chen, W.E. Lawson, J.K. Alder, R.G. Ingersoll, C. Markin, **M. Xie**, J. Cogan, J.A. Phillips III, P.M. Lansdorp, C.W. Greider and J.E. Loyd, Telomerase mutations in families with idiopathic pulmonary fibrosis. **New England Journal of Medicine**, 356, 1317-1326 (2007).
 23. C. Lin, **M. Xie**, J.J.-L. Chen, Y. Liu, and H. Yan, Rolling-circle amplification of a DNA nanojunction. **Angew. Chem. Int. Ed.**, 45, 7537-7539 (2006).
- (* equal contribution; # corresponding author)

ORAL PRESENTATIONS

Conference talks

1. Dicer cleaves 5'-extended microRNA precursors originating from RNA Polymerase II transcription start sites. P. Sheng, C. Fields, K. Aadland, T. Wei, O. Kolaczowski, T. Gu, B. Kolaczowski and **M. Xie** (p.29) **The 23rd annual meeting of the RNA Society** at University of California, Berkeley, Berkeley, CA, May 29-June 3, 2018
2. The Integrator complex generates the 3' end of viral microRNA precursors in a primate Herpesvirus. **M. Xie**, M. Shu, A. Xu, D. Lenis and J. Steitz. (p. 76, flash talk) **RNA biology conference** at Cold Spring Harbor Asia, Suzhou, China, November 10-14, 2014.
3. Mammalian 5'-capped microRNA precursors that generate a single microRNA. **M. Xie**, M. Li, A. Vilborg, N. Lee, M. Shu, V. Yartseva, N. Sestan and J. Steitz. (p. 55A) **The 19th annual meeting of the RNA Society** at Laval University, Quebec City, Canada, June 3-8, 2014.
4. A Herpesvirus uses the Integrator complex to generate viral microRNAs. **M. Xie**, D. Cazalla and J. A. Steitz. (p. 136) **Eukaryotic mRNA processing meeting** at Cold Spring Harbor Laboratory, NY, August 23-27, 2011.

Invited talks

1. Transcription start site microRNAs & Near-infrared fluorescent northern blot. **University of Arkansas**, Fayetteville, AR, March 26, 2019.
2. Transcription start site microRNAs & Near-infrared fluorescent northern blot. **Yale University**, New Haven, CT, March 6, 2019.

3. Non-canonical microRNA biogenesis: from an oncogenic Herpesvirus to its mammalian host. **Soochow University**, Suzhou, China, November 10, 2014.
4. Non-canonical microRNA biogenesis: from an oncogenic Herpesvirus to its mammalian host. **Huazhong Agricultural University**, Wuhan, China, October 14, 2014.
5. Non-canonical microRNA biogenesis: from an oncogenic Herpesvirus to its mammalian host. **Institute of Hydrobiology, Chinese Academy of Sciences**, Wuhan, China, October 13, 2014.
6. Mammalian 5'-capped microRNA precursors that generate a single microRNA” **The 11th International Therapeutics Discovery Symposia** at Hilton Garden Inn, Waltham, MA, May 5-6, 2014.