

**EMORY UNIVERSITY SCHOOL OF MEDICINE  
STANDARD CURRICULUM VITAE**

Revised: 07/28/2022

1. **Name:** Bing Yao, Ph.D.
2. **Office Address:**  
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3. **E-mail Address:** bing.yao@emory.edu
4. **Current Titles and Affiliations:**
  - a. Academic Appointments:
    - i. Primary Appointments:
      1. *Assistant Professor*, Department of Human Genetics, Emory University School of Medicine, 2017 – present
  - b. Other Administrative Appointments:
    1. *Chair*, Department of Human Genetics seminar and activity committee; 2020 – 2022 (*responsible for planning department seminars, symposiums, retreats, distinguished lectures, and trainee research in progress*)
    2. *Chair*, Genetics and Molecular Biology (GMB) Graduate Program Admission Committee, Laney Graduate School, Emory University, 2021 – present (*Elected by the GMB program, successfully recruited 10 students for Fall 2022 class*)
    3. *Co-Chair*, Emory University Institutional Biosafety Committee (IBC); 2022 – present (*responsible for reviewing research protocols involving recombinant or synthetic nucleic acid molecules to be done at Emory and rendering important decisions about their conduct and compliance with policies and regulations*)
    4. *Co-Chair*, Emory University Research Health and Safety Committee (RHSC); 2022 – present (*responsible for reviewing all types of non-recombinant DNA research involving biological and chemical agents in animal and human studies to be done at Emory and rendering important decisions about their conduct and compliance with policies and regulations*)
5. **Education:**

|           |                                                    |
|-----------|----------------------------------------------------|
| 1998-2002 | B.S., Ocean University of China, Qingdao, China    |
| 2002-2005 | M.S., Ocean University of China, Qingdao, China    |
| 2006-2012 | Ph.D., University of Florida, Gainesville, FL, USA |
6. **Postgraduate Training:**

|           |                                                                                 |
|-----------|---------------------------------------------------------------------------------|
| 2012-2017 | Postdoctoral Fellow; Emory University, Atlanta, GA. Supervisor: Peng Jin, Ph.D. |
|-----------|---------------------------------------------------------------------------------|
7. **Continuing Professional Development Activities:**

**Revised 7/28/2022**

1. Faculty Mentorship Workshop Series – Atlanta Society of Mentors at Emory, 2019 – 2020
2. Unconscious Bias Training, Emory University Graduate Division of Biological and Biomedical Sciences, 2020 and 2022

## 8. **Committee Memberships:**

### a. National and International:

1. *Member*, Undiagnosed Diseases Network Gene Function Study Review Committee, 2019 and 2021

### b. Institutional:

1. *Member*, Cell and Molecular Biology Research Program, Winship Cancer Institute, 2017 - present
2. *Member*, Genetics and Molecular Biology Graduate Program Admission Committee; Laney Graduate School, Emory University; 2018 – present
3. *Member*, Emory University Institutional Biosafety Committee (IBC); 2020 – present
4. *Member*, Emory University Research Health and Safety Committee (RHSC); 2020 – present
5. *Member*, Atlanta VA Healthcare System Institutional Biosafety Committee (IBC); 2021 – present
6. *Member*, Genetics and Molecular Biology Graduate Program Executive Committee; Laney Graduate School, Emory University; 2021 – present
7. *Member*, Department of Human Genetics Faculty Search Committee, 2021 – 2022

## 9. **Peer Review Activities:**

### a. Grants:

#### i. National and International:

1. *Ad hoc reviewer*, National Ataxia Foundation Young Investigator Award; 2017
2. *Ad hoc reviewer*, Undiagnosed Disease Network (UDN) Gene Function Study; 2019 and 2021
3. *Ad hoc reviewer*, European Science Foundation Call for Junior and Senior Research Projects of the Research Foundation Flanders (FWO); 2019
4. *Ad hoc reviewer*, Breast Cancer Now Fellowship; 2019
5. *Ad hoc reviewer*, Wellcome Trust Sir Henry Dale Fellowship application; 2019
6. *Ad hoc reviewer*, The Charleston Conference on Alzheimer's Disease New Vision Investigator Awards; 2019
7. *Ad hoc reviewer*, Human Frontier Science Program Organization Research Grant awards; 2020
8. *Ad hoc reviewer*, NIH Synapses, Cytoskeleton & Trafficking study section (SYN) study section, June 2021, and October 2021

- ii. Institutional:
  1. *Ad hoc reviewer*, 10X Single Cell Sequencing Seed Grant Funding, Emory University Woodruff Health Science Center; 2019
  2. *Ad hoc reviewer*, Emory University Woodruff Health Sciences Center Synergy II\_Nexus Award; 2022
  
- b. Manuscripts:
  1. Nucleic Acids Research; 2013 – present
  2. Genome Research; 2013 – present
  3. PLOS ONE; 2013 – present
  4. Stem Cells and Development; 2014 – present
  5. Journal of Biological Chemistry; 2015 – present
  6. Nature Biotechnology; 2018 – present
  7. PLOS Genetics; 2018 – present
  8. EMBO Reports; 2018 – present
  9. Nucleic Acid Therapeutics; 2019 – present
  10. Royal Society Open Science; 2019 – present
  11. Aging Cell; 2019 – present
  12. Molecular Psychiatry; 2019 – present
  13. Bioinformatics; 2019 – present
  14. Molecular Autism; 2019 – present
  15. Nature; 2019 – present
  16. Protein and Cell; 2020 – present
  17. Epigenetics; 2020 – present
  18. Genes and Diseases; 2020 – present
  19. Nature Communications; 2021 – present
  20. Brain Research; 2021 – present
  21. Advanced Science; 2021 – present
  
- c. Conference Abstracts:
  - i. National and International:
    1. Abstract Reviewer, American Society of Human Genetics Annual Scientific Meeting, San Diego, CA, 2018.
    2. Abstract Reviewer, American Society of Human Genetics Annual Scientific Meeting, Houston, TX, 2019.
    3. Abstract contest review judge, Biorender virtual Graphical Abstract contest, Virtual, 2020

## 10. Editorships and Editorial Boards:

1. Review editor, Frontiers in Non-Coding RNA; 2013 – present
2. Review editor, Frontiers in Epigenomics and Epigenetics; 2017 – present
3. Academic Editor, PLOS ONE; 2018 – present
4. Associate Editor, Frontiers in Behavioral and Psychiatric Genetics; 2021 – present

## 11. Honors and Awards:

1. HHMI Science for Life Graduate Student Award for outstanding mentoring of undergraduate students leading to research and scholarly publications; 2010
2. First Place, Molecular Cell Biology concentration, Medical Guild Graduate Student Research Competition; 2011
3. Outstanding Postdoctoral Research Award, Association of Chinese Geneticists in America; 2013

4. National Ataxia Foundation Postdoctoral fellowship; 2014
5. Travel fellowship, National Ataxia Foundation Investigator meeting, Las Vegas, NV; 2014
6. Keystone Symposium Fellowship, Neuroepigenetics, Santa Fe, NM; 2015
7. Travel Fellowship, National Ataxia Foundation Investigator meeting, Orlando, FL; 2016
8. Outstanding Postdoctoral Research Award, Association of Chinese Geneticists in America; 2016
9. American Society of Human Genetics/Charles J. Epstein Trainee Award for Excellence in Human Genetics Research – Semifinalist, Vancouver, BC, Canada; 2016
10. National Ataxia Foundation Young investigator award; 2017
11. IMAGINE, INNOVATE, AND IMPACT (I3) "Wow" Research Award, Emory University; 2018
12. Charleston Conference on Alzheimer's Disease grant competition finalist; 2019
13. Emory School of Medicine Researcher Appreciation Day Recognition; 2019

## 12. Society Memberships:

1. American Society of Cell Biology; 2009 – 2010
2. RNA Society; 2010 – 2011
3. American Society of Human Genetics; 2013 – present

## 13. Organization of Conferences:

### a. National and International:

1. *Platform Session co-organizer and co-chair. "Non-Coding RNAs in Normal CNS Development and Diseases."* 52nd Annual American Society for Neurochemistry (ASN) Meeting, Roanoke, VA, 2022

## 14. Community Outreach:

### a. General:

1. Wheeler Magnet Internship Program. *Host Wheeler high school summer internships students in my research laboratory*; 2018 and 2019
2. Department of Human Genetics NextGen High School Internship program. *Host high school students from historically underrepresented science backgrounds in my research laboratory*; 2022

## 15. Formal Teaching:

### a. Graduate Programs:

#### i. Masters and Ph.D. Programs:

1. Lecturer, *Overview of Epigenetics for Genetic Counseling master students*, Department of Human Genetics, Emory University School of Medicine, 2017
2. Lecturer, *IBS746 Graduate Human Genetics*, Genetics, and Molecular Biology Graduate Program, Emory Laney Graduate School. 2017 – present
3. Co-Director, *IBS 706 Responsible Conduct in Science*. Genetics and Molecular Biology Graduate Program, Laney Graduate School. (co-director: Meleah A. Hickman, Ph.D.), 2018

4. Co-Director, *IBS 515 Current Topics in Molecular Genetics: Special topics in RNA biology*. Genetics and Molecular Biology Graduate Program, Laney Graduate School. (co-director: Dorothy Lerit, Ph.D.), 2018
5. Lecturer, *IBS 561 Eukaryotic Chromosome Structure and Function*, Genetics and Molecular Biology Graduate Program, Emory Laney Graduate School. 2019 – present

## 16. Supervisory Teaching:

### a. Ph.D. Students Directly Supervised:

1. *Janise Kuehner*, Emory University GMB Program Ph.D. student, 2018 – present
2. *Katherine Westover*, Emory University GMB Program Ph.D. student, 2020 – present

### b. Postdoctoral Fellows Directly Supervised:

1. *Feng Wang, Ph.D.*, 2018 – present
2. *Yangping Li, Ph.D.*, 2019 – present
3. *Yingzi Hou, Ph.D.*, 2020 – present

### c. Thesis Committees:

1. *Chao Lin*, Emory University Neuroscience Program, lab of Dr. Gary Bassell, 2018 – 2019
2. *Christy Kinney*, Emory University Genetics and Molecular Biology (GMB) Program, lab of Dr. Anita Corbett, 2018 – 2022
3. *Laura Cortes*, Georgia State University Neuroscience Program, lab of Dr. Nancy Forger, 2018 – 2022
4. *Maria Sterrett*, Emory University Biochemistry, Cell and Developmental Biology Program (BCDB) Program, lab of Dr. Anita Corbett, 2018 – present
5. *Matthew Armstrong*, Emory University Genetics and Molecular Biology (GMB) Program, lab of Dr. Peng Jin, 2018 – present
6. *Athena Russell*, Emory University Genetics and Molecular Biology (GMB) Program, lab of Dr. Christopher Doering, 2018 – 2021
7. *Liz Dreggors*, Emory University Biochemistry, Cell and Developmental Biology Program (BCDB) Program, lab of Dr. Homa Ghalei, 2019 – 2022
8. *Paul Zakutansky*, Emory University Biochemistry, Cell and Developmental Biology Program (BCDB) Program, lab of Dr. Yue Feng, 2019 – present
9. *Samantha Lanjewar*, Emory University Genetics, and Molecular Biology (GMB) Program, lab of Dr. Steven Sloan, 2020 – present
10. *Emily Hill*, Emory University Genetics and Molecular Biology (GMB) Program, lab of Dr. Steven Sloan, 2021 – present
11. *Jordan Owyong*, Emory University Genetics, and Molecular Biology (GMB) Program, lab of Dr. Jill Ward, 2021 – present
12. *Nic Janto*, Emory University Genetics and Molecular Biology (GMB) Program, lab of Dr. Adam Gracz, 2022 – present

### d. Other: Undergraduate Students – Emory University

1. *Nevin Walia*, Emory University undergraduate student, 2019 – present
2. *Rachel Seong*, Emory University undergraduate student, federal work-study undergraduate researcher, 2021 – present

3. *Alice Hou*, Emory University undergraduate student, 2022 – present
- e. Other: High School Summer Interns
1. *Nishant Patil*, Wheeler high school summer intern, 2018; Current: Undergraduate Student in Georgia Institute of Technology
  2. *Insung Kim*, Wheeler high school summer intern, 2019; Current: Undergraduate Student at Vanderbilt University
- f. Other: Rotation students
1. *Keenan Wiggins*, GMB rotation student, 2019. Current: GMB graduate student in Dr. Jerry Boss lab.

## 17. Lectureships, Seminar Invitations, and Visiting Professorships:

- a. National and International:
1. Rutgers University Department of Cell Biology and Neuroscience seminar series, "DNA Modifications in Neurodevelopment and Brain Disorders," Piscataway, NJ; 2017
  2. Ferreyra Institute Lecture Series, "Epigenetic regulation in brain development and diseases;" Instituto Ferreyra, INIMEC-CONICET, Córdoba, Argentina; 2022
  3. Indiana University Genome, Cell and Developmental seminar series, "Roles of DNA modifications and non-coding RNAs in the brain," Bloomington, IN; 2022
- b. Regional:
1. University of Georgia Department of Genetics, "DNA Modifications in Neurodevelopment and Brain Disorders," Athens, GA; 2017
  2. Augusta University Department of Neuroscience and Regenerative Medicine Seminar Series, "Epigenetic regulation in brain development and diseases;" Augusta, GA; 2022
- c. Institutional:
1. Emory University Center for Neurodegenerative Disease Seminar Series, "DNA modifications in development and brain disorders;" Atlanta, GA; 2017
  2. Emory University Genetics and Molecular Biology Graduate Program faculty candidate Seminar Series, "DNA modifications in development and brain disorders;" Atlanta, GA; 2018
  3. Emory University Department of Biochemistry Seminar Series, "DNA modifications in development and brain disorders;" Atlanta, GA; 2018
  4. Emory University Goizueta Alzheimer's Disease Research Center Seminar Series, "Epigenetic regulation in Alzheimer's Diseases;" Atlanta, GA; 2019
  5. Emory University Department of Human Genetics Seminar Series, "Roles of DNA modifications and non-coding RNAs in the brain;" Atlanta, GA; 2020

## 18. Invitations to National/International, Regional, and Institutional Conferences:

- a. National and International:
1. Abcam Neuroepigenetics Conference, "Global reduction of 5-hydroxymethylcytosine in an FMR1 premutation mouse model", Arlington, VA; 2014

2. World Forum on Biology, "DNA modifications and neurological disorders.," Savannah, GA. 2014
3. Keystone Symposia Conference | DNA and RNA Methylation, "DNA N6-Methyladenine is dynamically modified in the mouse brain following environmental stress", Vancouver, BC, Canada; 2018
4. Fusion Conference | Neuroepigenetics and Neuroepitranscriptomics, "DNA N6-Methyladenine is dynamically modified in the mouse brain following environmental stress and Alzheimer's disease", Cancun, Mexico; 2018
5. 52nd Annual Meeting of the American Society for Neurochemistry, "CircRNA Landscape and the circRNA-miRNA-mRNA Axis in Human Oligodendroglia Differentiation," Roanoke, VA; 2022

## 19. Abstract Presentations at National/International, Regional, and Institutional Conferences:

### a. National and International:

1. Yao B.\* , Li S., Lian S., Abadal G., Han F., Fritzier M., and Chan EKL. Human GW182 Protein Contains Divergent Functional Domains in Regulating Translational Repression. ASCB annual meeting, San Diego, CA. 2009. *Poster Presentation*.
2. Yao B.\* , Li S., Jung H., Lian S., Abadal G., Han F., Fritzier M., and Chan EKL. Divergent GW182 functional domains in the regulation of translational repression. RNA Society Meeting, Seattle, WA. 2010. *Poster Presentation*.
3. Yao B.\* , La L., Nahid A. and Chan EKL. Selective secretion of miR-146a containing exosomes in lipopolysaccharide-induced monocytes. Mechanism and Biology of Silencing, Keystone Symposia, Monterey, CA. 2011. *Poster Presentation*.
4. Yao B.\* , La L., Chen Y., Chang L., and Chan EKL. (2011) Role of GW182 in regulating miRNA stability. Cell symposia Regulatory RNAs, Chicago, IL. 2011. *Poster Presentation*.
5. Yao B.\* , Lin L., Street. R., Zalewski Z., Galloway J., Wu H., Nelson D., and Jin P. Genome-wide alteration of 5-hydroxymethylcytosine in a mouse model of fragile X-associated tremor/ataxia syndrome. American Society of Human Genetics Annual Meeting, Boston, MA. 2013. *Oral Presentation*.
6. Yao B.\* , Lin L., Street. R., Zalewski Z., Galloway J., Wu H., Nelson D., and Jin P. Genome-wide alteration of 5-hydroxymethylcytosine in a mouse model of fragile X-associated tremor/ataxia syndrome. National Ataxia Foundation Investigator meeting, Las Vegas, NV. 2014. *Poster Presentation*.
7. Yao B.\* , Lin L., Podevin M., Nelson D., and Jin P. HnRNP A2/B1 interacts with Tet2 and modulates epigenetic dynamics and neurodegeneration. Keystone Symposia | Neuroepigenetics, Santa Fe, NM. 2015. *Poster Presentation*.
8. Yao B.\* , Bao H., Chen L., Lin L., Podevin M., Yang S., Li X., Stoyas C., La Spada A., Ayhan F., Ranum L., Duvick L., Orr H., Zalewski Z., Nelson D., Wu H., and Jin P. 5-hydroxymethylcytosine-mediated Epigenetic Dysregulation in Cerebellar Degeneration. National Ataxia Foundation Investigator meeting, Orlando, FL. 2016. *Oral Presentation*.
9. Yao B.\* , Bao H., Chen L., Lin L., Podevin M., Yang S., Li X., Stoyas C., La Spada A., Ayhan F., Ranum L., Duvick L., Orr H., Zalewski Z., Nelson D., Wu H., and Jin P. 5-hydroxymethylcytosine-mediated Epigenetic Dysregulation in Cerebellar Degeneration. American Society of Human Genetics Annual Meeting, Vancouver, BC, Canada. 2016. *Oral Presentation*.
10. Kuehner J.N,\* and Yao B. 5hmC is Dynamically Regulated During Brain Development and is Prematurely Altered in Alzheimer's Organoids, American Society of Human Genetics Annual Meeting, Huston, TX, 2019. *Poster Presentation*.
11. Wang F.\* , Li Y., Chen J., Kuehner J.N., Chen L and Yao B. Global alteration of circRNA landscape and their potential pathological roles in Alzheimer's disease. American Society of Human Genetics Annual Meeting, Huston, TX, 2019. *Poster Presentation*.

12. Li Y.\*, Wang F., Teng P., Ku L., Chen L., Feng Y and Yao B. Accurate identification of circRNA landscape and microRNA network in human oligodendroglia differentiation. American Society of Human Genetics Annual Meeting, Virtual, 2021. *Poster Presentation.*
13. Kuehner J.N.\* and Yao B. Stressing Out Epigenetics: How Stress Alters the Epigenetic Landscape During Neurodevelopment. American Society of Human Genetics Annual Meeting, Virtual, 2021. *Poster Presentation.*
14. Wang F.\*, Li Y and Yao B. Accurate identification of circRNA landscape and dynamic regulation during early neuronal differentiation. American Society of Human Genetics Annual Meeting, Virtual, 2021. *Poster Presentation.*
15. Westover K.\*, Hou Y., Li Y., and Yao B. Genome-wide dysregulation of R-loops in AT neurological pathogenesis. The 27th Annual Meeting of the RNA Society. Boulder, CO, 2022. *Poster Presentation.*

b. Regional:

1. Kuehner J.N.\* and Yao B. Using 3D Human Organoid Model to Study Neuronal-Specific 5-hydroxymethylcytosine Landscape in Brain Development and Alzheimer's Disease, Southeastern Regional Genetics Network Annual Meeting, Asheville, NC, 2019. *Poster Presentation.*

c. Institutional:

1. Kuehner J.N.\* and Yao B. Using 3D Human Organoid Model to Study Neuronal-Specific 5-hydroxymethylcytosine Landscape in Brain Development and Alzheimer's Disease, 16th Annual Division Student Advisory Council (DSAC) Research Symposium, Emory University School of Medicine, Atlanta, GA, 2019. *Poster Presentation.*
2. Kuehner J.N.\* and Yao B. 5hmC is Dynamically Regulated During Brain Development and is Prematurely Altered in Alzheimer's Organoids, 17th Annual Division Student Advisory Council (DSAC) Research Symposium, Emory University School of Medicine, Atlanta, GA, 2020. *Oral Presentation.*
3. Westover K.\* and Yao B. Genome-wide dysregulation of R-loops in AT neurological pathogenesis. 18th Annual Division Student Advisory Council (DSAC) Research Symposium, Emory University School of Medicine, Atlanta, GA, 2021. *Poster Presentation.*
4. Westover K.\*, Hou Y., Li Y., and Yao B. Genome-wide dysregulation of R-loops in AT neurological pathogenesis. 19th Annual Division Student Advisory Council (DSAC) Research Symposium, Emory University School of Medicine, Atlanta, GA, 2022. *Oral Presentation.*

**20. Research Focus:**

We take interdisciplinary approaches such as mouse/human genetics, stem cell biology, and high-throughput sequencing to understand the pivotal roles of transcriptional and post-transcriptional gene regulations, including DNA modifications, R-loops, and non-coding RNAs in mammalian neuronal and glial development, and how dysregulation of these processes may contribute to neural pathology.

**21. Grant Support:**

a. Active Support:

i. Federally Funded:



1. **P.I.**, National Institute of Mental Health (NIMH), NIH, R01 MH117122, "*Epigenetic roles of DNA adenine methylation in stress response*"; **NIH Research Project Grant Program (R01)**, Total Award Amount (including Indirect Costs): \$1,979,359; 04/2019-12/2023
  2. **P.I.**, National Institute of Aging (NIA), NIH, R01 AG062577, "*Epigenetic Roles of DNA Adenine Methylation in Alzheimer's Disease*"; **NIH Research Project Grant Program (R01)**, Total Award Amount (including Indirect Costs): \$1,962,265; 08/2019-03/2024
  3. **Multi-PI**, National Institute of Aging (NIA), NIH, R01 AG064786, "*Genome-wide mapping of DNA N6- methyladenine (6mA) in human A.D. brain*"; **NIH Research Project Grant Program (R01)**, Total Award Amount (including Indirect Costs): \$1,314,894 (Emory subaward); 09/2019-04/2024
  4. **Multi-PI**, National Institute of Neurological Disorders and Stroke (NINDS), NIH, R01 NS118819, "*Regulation and function of human neural circular RNAs*"; **NIH Research Project Grant Program (R01)**, Total Award Amount (including Indirect Costs): \$2,744,121; 03/2021-12/2025
  5. **P.I.**, National Institute of Neurological Disorders and Stroke (NINDS), NIH, R33 NS106120, "*Use of CRISPR/Cas9 to treat Huntington Disease*"; **NIH Exploratory/Developmental Grants Phase II (R33)**, Total Award Amount (including Indirect Costs): \$780,820; 05/2021-04/2023
  6. **Co-I**, National Institute of Aging (NIA), NIH, R21 AG072767, "*Exploring the role of GADD45A in Alzheimer's Disease*"; **NIH Exploratory/Developmental Research Grant Award (R21)**, Total Award Amount (including Indirect Costs): \$416,071; 02/2022-01/2024
  7. **Multi-PI**, National Institute of Aging (NIA), NIH, R01 AG078937, "*Elucidating the Roles of Transposable Elements in Alzheimer's and Related Dementia*"; **NIH Research Project Grant Program (R01)**, Total Award Amount (including Indirect Costs): \$3,881,997; 08/2022-06/2027
- ii. Other: In-Kind Contributions
1. **Mentor, Predoctoral Training Program in Genetics institutional T32 training grant** support for graduate student Katherine Westover (T32 GM008490), Emory University, Total Award Amount: \$59,556; 08/2020-06/2022

b. Previous Support:

1. **P.I.**, **National Ataxia Foundation Young Investigator Research Grant**, "*Epigenetic modulation-mediated by RNA-binding proteins in neurodegeneration*"; Total Award Amount (including Indirect Costs): \$35,000; 01/2017-12/2017
2. **P.I.**, NIH/NIA/Emory University **Alzheimer's Diseases Research Center pilot grant**, P50 AG025688, "*The role of DNA adenine methylation in adult neurogenesis and Alzheimer's disease*"; NIH Specialized Center Grant (P50), Total Award Amount: \$28,000; 06/2018-05/2019

3. **Multi-PI, Emory I3 Wow! Research Awards!** "Understanding mechanisms of individual variation in antidepressant response for precision medicine;" Total Award Amount (No Indirect Costs): \$75,000; 03/2019-03/2020
4. **P.I.**, National Institute of Neurological Disorders and Stroke (NINDS), NIH, R21 NS102913, "Hypothalamic MANF and food-intake activity"; **NIH Exploratory/Developmental Research Grant Award (R21)**, Total Award Amount (including Indirect Costs): \$195,000; 08/2019-01/2020
5. **Multi-PI, 2021 Synergy II Nexus Award**, Emory University, "Are RNA Exosomopathies Ribosomopathies?"; Total Award Amount (No Indirect Costs): \$100,000; 06/2021-05/2022

## 22. Bibliography:

- a. Published and Accepted Research Articles (clinical, basic science, other) in Refereed Journals: (#. Corresponding author; \* co-first author)
  1. Zhang, Y., Lin, N., Carroll, P.M., Chan, G., Guan, B., Xiao, H., **Yao, B.**, Wu, S.S. and Zhou, L. (2008) Epigenetic Blocking of an Enhancer Region Controls Irradiation-Induced Proapoptotic Gene Expression in Drosophila Embryos. *Dev Cell*, **14**, 481-493.
  2. Qiu, J., Ai, L., Ramachandran, C., **Yao, B.**, Gopalakrishnan, S., Fields, C.R., Delmas, A.L., Dyer, L.M., Melnick, S.J., Yachnis, A.T., Schwartz, P.H., Fine, H.A., Brown, K.D. and Robertson, K.D. (2008) Invasion suppressor cystatin E/M (CST6): high-level cell type-specific expression in normal brain and epigenetic silencing in gliomas. *Lab Invest*, **88**, 910-925.
  3. Jin, B., **Yao, B.**, Li, J.L., Fields, C.R., Delmas, A.L., Liu, C., and Robertson, K.D. (2009) DNMT1 and DNMT3B modulate distinct polycomb-mediated histone modifications in colon cancer. *Cancer Res*, **69**, 7412-7421.
  4. Carcamo, W.C., Satoh, M., Kasahara, H., Terada, N., Hamazaki, T., Chan, J.Y., **Yao, B.**, Tamayo, S., Covini, G., von Muhlen, C.A. and Chan, E.K. (2011) Induction of cytoplasmic rods and rings structures by inhibition of the CTP and GTP synthetic pathway in mammalian cells. *PLoS One*, **6**, e29690.
  5. **Yao, B.**, Li, S., Lian, S.L., Fritzler, M.J. and Chan, E.K. (2011) Mapping of Ago2-GW182 functional interactions. *Methods Mol Biol*, **725**, 45-62.
  6. **Yao, B. \* (co-first author)**, Li, S.\*, Jung, H.M., Lian, S.L., Abadal, G.X., Han, F., Fritzler, M.J., and Chan, E.K. (2011) Divergent GW182 functional domains in the regulation of translational silencing. *Nucleic Acids Res*, **39**, 2534-2547.
  7. Patel, R.S., Jakymiw, A., **Yao, B.**, Pauley, B.A., Carcamo, W.C., Katz, J., Cheng, J.Q. and Chan, E.K. (2011) High resolution of microRNA signatures in whole human saliva. *Arch Oral Biol*, **56**, 1506-1513.
  8. **Yao, B.**, La, L.B., Chen, Y.C., Chang, L.J. and Chan, E.K. (2012) Defining a new role of GW182 in maintaining miRNA stability. *EMBO Rep*, **13**, 1102-1108.
  9. Nahid, M.A., **Yao, B.**, Dominguez-Gutierrez, P.R., Kesavalu, L., Satoh, M. and Chan, E.K. (2013) Regulation of TLR2-mediated tolerance and cross-tolerance through IRAK4 modulation by miR-132 and miR-212. *J Immunol*, **190**, 1250-1263.
  10. Guo, J.U., Szulwach, K.E., Su, Y., Li, Y., **Yao, B.**, Xu, Z., Shin, J.H., Xie, B., Gao, Y., Ming, G.L., Jin, P. and Song, H. (2014) Genome-wide antagonism between 5-hydroxymethylcytosine and DNA methylation in the adult mouse brain. *Front Biol*, **9**, 66-74.
  11. **Yao, B.**, Lin, L., Street, R.C., Zalewski, Z.A., Galloway, J.N., Wu, H., Nelson, D.L. and Jin, P. (2014) Genome-wide alteration of 5-hydroxymethylcytosine in a mouse model of fragile X-associated tremor/ataxia syndrome. *Hum Mol Genet*, **23**, 1095-1107.
  12. Irier, H., Street, R.C., Dave, R., Lin, L., Cai, C., Davis, T.H., **Yao, B.**, Cheng, Y., and Jin, P. (2014) Environmental enrichment modulates 5-hydroxymethylcytosine dynamics in hippocampus. *Genomics*, **104**, 376-382.

13. Xu, T., Li, B., Zhao, M., Szulwach, K.E., Street, R.C., Lin, L., **Yao, B.**, Zhang, F., Jin, P., Wu, H. and Qin, Z.S. (2015) Base-resolution methylation patterns accurately predict transcription factor bindings in vivo. *Nucleic Acids Res*, **43**, 2757-2766.
14. Zeng, J., Mi, R., Wang, Y., Li, Y., Lin, L., **Yao, B.**, Song, L., van Die, I., Chapman, A.B., Cummings, R.D., Jin, P. and Ju, T. (2015) Promoters of Human Cosmc and T-synthase Genes Are Similar. in Structure, Yet Different in Epigenetic Regulation. *J Biol Chem*, **290**, 19018-19033.
15. Zhang, C., Robinson, B.S., Xu, W., Yang, L., **Yao, B.**, Zhao, H., Byun, P.K., Jin, P., Veraksa, A. and Moberg, K.H. (2015) The ecdysone receptor coactivator Taiman links Yorkie to transcriptional control of germline stem cell factors in somatic tissue. *Dev Cell*, **34**, 168-180.
16. Wu, H., Xu, T., Feng, H., Chen, L., Li, B., **Yao, B.**, Qin, Z., Jin, P. and Conneely, K.N. (2015) Detection of differentially methylated regions from whole-genome bisulfite sequencing data without replicates. *Nucleic Acids Res*, **43**, e141.
17. Zeng, Y.\* , **Yao, B.\* (co-first author)**, Shin, J., Lin, L., Kim, N., Song, Q., Liu, S., Su, Y., Guo, J.U., Huang, L., Wan, J., Wu, H., Qian, J., Cheng, X., Zhu, H., Ming, G.L., Jin, P. and Song, H. (2016) Lin28A Binds Active Promoters and Recruits Tet1 to Regulate Gene Expression. *Mol Cell*, **61**, 153-160. (**Cover feature**)
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b. Manuscripts Submitted:

1. Teng, P.\*; Li, Y.\*; Zhou, Y., Ku, L., Wang F., Wen, Z., **Yao, B.# (corresponding author)** and Feng, Y.# MiR-137 and GOMAFU form a novel non-coding RNA pathway to regulate human neuron differentiation and molecular networks affected in neuropsychiatric diseases. (Submitted to *Molecular Psychiatry*).
  2. Ma, L.\*; Wang, F.\*; Li, Y.\*; Wang, J.\*; Wang, Y., Luo, Y., Du, Y., Zhang, W., Zhao, Z., Fan, G#, **Yao, B. # (corresponding author)** and Chen J.F.#. Maternal Zika virus infection alters 5hmC DNA modification and leads to transgenerational behavior abnormalities in offspring mice. (Submitted to *Nature Communications*).
- c. Review Articles:
1. Ceribelli, A., **Yao, B.**, Dominguez-Gutierrez, P.R. and Chan, E.K. (2011) Lupus T cells switched on by DNA hypomethylation via microRNA? *Arthritis Rheum*, **63**, 1177-1181.
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- d. Book Chapters:
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- e. Computer Programs
1. Li, Y., Wang, F., Teng, P., Ku, L., Chen, L., Feng, Y. # and **Yao, B. # (corresponding author, Lead contact)**, CircRNA identification by A-tailing RNase R and Pseudo-reference alignment (CARP), an integrated 21-module computational framework designed for circRNA analysis. <https://github.com/YaoLabEmory/CARP>. Source code available at Zenodo: <https://zenodo.org/record/5903550#.YfBHifXML0p>
- f. Published Abstracts:
1. **Yao B.**, Li S., Lian S., Abadal G., Han F., Fritzler M., and Chan EKL. Human GW182 Protein Contains Divergent Functional Domains in Regulating Translational Repression. ASCB annual meeting, San Diego, CA. 2009. *Poster Presentation*. Page 1000: 2072/B451.

2. **Yao B.**, Lin L., Street. R., Zalewski Z., Galloway J., Wu H., Nelson D., and Jin P. Genome-wide alteration of 5-hydroxymethylcytosine in a mouse model of fragile X-associated tremor/ataxia syndrome. American Society of Human Genetics Annual Meeting, Boston, MA. 2013. *Oral Presentation*. Page 118:310
3. **Yao B.**, Bao H., Chen L., Lin L., Podevin M., Yang S., Li X., Stoyas C., La Spada A., Ayhan F., Ranum L., Duvick L., Orr H., Zalewski Z., Nelson D., Wu H., and Jin P. 5-hydroxymethylcytosine-mediated Epigenetic Dysregulation in Cerebellar Degeneration. American Society of Human Genetics Annual Meeting, Vancouver, BC, Canada. 2016. *Oral Presentation*. Page 134:267
4. Kuehner JN and **Yao B.** 5hmC is Dynamically Regulated During Brain Development and is Prematurely Altered in Alzheimer's Organoids, American Society of Human Genetics Annual Meeting, Huston, TX, 2019. *Poster Presentation*. Page 3303: PgmNr 3270
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