Baojin Ding M.D., PH.D.

TITLE AND CONTACTINFORMATION

Assistant Professor in Cell Biology and Neuroscience
Department of Biology, University of Louisiana at Lafayette
410 E. St. Mary Blvd. Lafayette, LA 70503

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EDUCATION

2010 Ph.D. in Biochemistry and Molecular Biology of Veterinary Medical Sciences,
Louisiana State University, School of Veterinary Medicine, Baton Rouge, LA

2004 M.S. of Medicine in Clinical Laboratory
Wenzhou Medical College, Wenzhou, Zhejing, P. R. China

2001 Bachelor Degree of Medicine (M.D. equivalent)
Medical College of Qingdao University, Qingdao, Shandong, P. R. China

PROFESSIONAL EXPERIENCE

2018- Present Assistant Professor
Department of Biology, University of Louisiana at Lafayette, Lafayette, LA 70503
Research area: Cell Biology, Neuroscience and Neurological Diseases

2016- 2018 Assistant instructor
Department of Molecular Biology, Center for Regenerative Science and Medicine,
UT Southwestern Medical Center, Dallas, TX
Research interests: Nucleocytoplasmic transport in neural development and neurological disorders.

2010-2016 Postdoctoral Fellow
Departments of Physiology and Neurobiology, University of Massachusetts Medical School, Worcester, MA
Research topic: Molecular Mechanisms of Gene Expression in Neurodevelopment and nuclear mRNA export.

2005 —2010 Graduate Research Assistant
Department of Comparative Biomedical Science, School of Veterinary Medicine, Louisiana State University, Baton Rouge, LA
Research topic: The Molecular Mechanisms of Transcription Coupled DNA Repair in Eukaryotic cells.
(Ph.D. Dissertation: http://etd.lsu.edu/docs/available/etd-04072010-012548/unrestricted/Ding_diss.pdf)

2004 —2005 Research Associate
Department of Biological Sciences, Louisiana State University, Baton Rouge, LA
Research topic: The Biogenesis and Functions of Iron-Sulfur Cluster proteins.

2002 —2004 Research Assistant
The Institute of Cellular and Molecular Medicine, Wenzhou Medical College, Wenzhou, Zhejiang, P. R. China

Research topic: Isolation, Purification and Screening of Effective Components from Natural Products.

2000 —2001 Intern Doctor
Affiliated Hospital of Medical College of Qingdao University, Qingdao, P. R. China

SELECTED PUBLICATIONS (*Dr. Baojin Ding is the corresponding author)

https://www.ncbi.nlm.nih.gov/myncbi/baojin.ding.1/bibliography/public/

1. **Ding B*.** (2021). Novel insights into the pathogenesis of DYT1 dystonia from induced patient-derived neurons. ***Neural Regen Res.*** (Invited Perspective, in press)
2. **Ding B*** and Sepehrimanesh M. (2021). Nucleocytoplasmic transport: regulatory mechanisms and the implications in neurodegeneration. ***Int. J. Mol. Sci.*** 22 (8): 4165.
3. **Ding B***, Tang Y, Ma S, Akter M, Liu ML, Zang T, Zhang CL.(2021). Disease modeling with human neurons reveals LMNB1 dysregulation underlying DYT1 dystonia. ***J Neurosci.*** 41 (9): 2024-2038. Featured Article, https://www.jneurosci.org/content/41/9/1846
4. **Ding B*.** (2021). Generation of patient-specific motor neurons in modeling movement diseases. ***Neural Regen Res*** 16(9):1799-1800.
5. Sepehrimanesh M, and **Ding B*** (2020). Generation and Optimization of Highly Pure Motor Neurons from Human Induced Pluripotent Stem Cells via Lentiviral Delivery of Transcription Factors. ***Am J Physiol Cell Physiol***. 319: C771–C780.
6. **Ding B,*** Akter M, and Zhang C-L. (2020). Differential Influence of Sample Sex and Neuronal Maturation on mRNA and Protein Transport in Induced Human Neurons. ***Front Mol Neurosci****.* 2020 Apr 3; 13: 46.
7. Selvam K, **Ding B**, Sharma R and Li S. (2019). Evidence that moderate eviction of Spt5 and promotion of error-free transcriptional bypass by Rad26 facilitates transcription coupled repair. ***J Mol Biol.*** 2019 Feb 18. doi: 10.1016
8. **Ding B,** Dobner PR, Mullikin-Kilpatrick D, Wang W, Zhu H, Chow CW, Gronostajski RM and Kilpatrick DL. (2018). BDNF Activates an NFI-Dependent Neurodevelopmental Timing Program By Sequestering NFATc4. ***Mol Biol Cell***. 2018 Apr 15; 29(8):975-987
9. **Ding B.**, Mirza A,M., Alshley J. Budnik V. and Munson M. (2017). Nuclear Export Through Nuclear Envelope Remodeling in *Saccharomyces cerevisiae.* ***bioRxiv*** 224055; doi: https://doi.org/10.1101/224055
10. Leto K, Arancillo M, Becker EB, Buffo A, Chiang C, **Ding B**, Dobyns WB, Dusart I, Haldipur P, Hatten ME, Hoshino M, Joyner AL, Kano M, Kilpatrick DL, Koibuchi N, Marino S, Martinez S, Millen KJ, Millner TO, Miyata T, Parmigiani E, Schilling K, Sekerková G, Sillitoe RV, Sotelo C, Uesaka N, Wefers A, Wingate RJ, Hawkes R. (2016). Consensus Paper: Cerebellar Development. ***Cerebellum***. Dec;15(6): 789-828.
11. Li Y, Hassinger L, Thomson T, **Ding B**, Ashley J, Hassinger W and Budnik V. (2016). Lamin Mutations Accelerate Aging via Defective Export of Mitochondrial mRNAs through Nuclear Envelope Budding. ***Curr Biol***. 2016 Aug 8;26(15):2052-9
12. **Ding B,** Cave HW, Dobner PR, Kilpatrick DM, Bartsokis M, Zhu H, Chow CW, Gronostajski RM and Kilpatrick DL. (2016) Reciprocal Auto-Regulation by NFI Occupancy and ETV1 Promotes the Developmental Expression of Dendrite-Synapse Genes in Cerebellar Granule Neurons*.* ***Mol Biol Cell.*** 2016 May 1;27(9):1488-99
13. Packard M, Jokhi V, **Ding B** and Budnik V*.* (2015) Nucleus to Synapse Nesprin Railroad Tracks Direct Synapse Maturation through RNA localization. ***Neuron.*** 86(4):1015-28).
14. **Ding B**. (2015) Gene Expression in Maturing Neurons: Regulatory Mechanisms and Related Neurodevelopmental Disorders. ***ACTA PHYSIOLOGICA SINICA*** *(Sheng Li Xue Bao)*. 67(2):113-33. (Invited Review)
15. **Ding B**, Wang W, Selvakumar T, Xi HS, Zhu H, Chow CW, Horton JD, Gronostajski RM and Kilpatrick DL. (2013) Temporal Regulation of Nuclear Factor One Occupancy by Calcineurin/NFAT Governs a Voltage-Sensitive Developmental Switch in Late Maturing Neurons. ***J Neurosci***. 33(7):2860-2872.
16. **Ding B** and Kilpatrick DL. (2013) Lentiviral Vector Production, Titration, and Transduction of Primary Neurons. ***Methods Mol Biol***. 1018:119-31. Chapter 12.
17. **Ding B** and Kilpatrick DL.(2013). Chromatin Immunoprecipitation Assay of Brain Tissue Using Percoll Gradient-Purified Nuclei. ***Methods Mol Biol***. 1018:199-209. Chapter 19.

18. **Ding B**, Lejeune D and Li S. (2010) The C-terminal Repeat Domain of Spt5 Plays an Important Role in Suppression of Rad26-independent Transcription Coupled Repair. ***J Biol Chem.*** 285 (8): 5317-5326.

19. **Ding B**, Ruggiero C, Chen X and Li S. (2007) Tfb5 is Partially Dispensable for Rad26 Mediated Transcription Coupled Nucleotide Excision Repair in Yeast. ***DNA Repair (Amst).*** 6 (11): 1661- 1669.

20. Li S, **Ding B**, LeJeune D, Ruggiero C, Chen X and Smerdon MJ. (2007) The Roles of Rad16 and Rad26 in Repairing Repressed and Actively Transcribed Genes in Yeast. ***DNA Repair (Amst).*** 6 (11): 1596-1606.

21. Li S, **Ding B**, Chen R, Ruggiero C and Chen X. (2006) Evidence that Transcription Elongation Function of Rpb9 is Involved in Transcription Coupled DNA Repair in *Saccharomyces cerevisiae.* ***Mol Cell Biol.*** 26 (24): 9430-9441.

22. Li S, Chen X, Ruggiero C, **Ding B** and Smerdon M. (2006) Modulation of Rad26 and Rpb9 Mediated DNA Repair by Different Promoter Elements. ***J. Biol. Chem.*** 281(48): 36643-36651.

23. **Ding B**, Smith ES, and Ding H. (2005) Mobilization of Iron Center in IscA for Iron-sulfur Cluster Assembly in IscU. ***Biochem. J.*** 389 (Pt 3):797-802.

24. Ding H, Clark RJ and **Ding B.** (2004) IscA Mediates Iron Delivery for Assembly of Iron-Sulfur Clusters in IscU under the Limited Accessible Free Iron Conditions. ***J. Biol. Chem.*** 279 (36): 37499 – 37504.

RESEARCH SUPPORT

Current

DoD (W81XWH2010186) Peer Reviewed Medical Research Program (PRMRP) Discovery Award (PI) $290,000; 03/15/2020-3/14/2022
Title: *Determining the Pathogenesis of Dystonia in Reprogrammed Human Neurons*
Source: Department of Defense, Congressionally Directed Medical Research Programs (CDMRP)
Overall goal: To determine the pathogenesis of adulthood onset dystonia via directly reprogramming human neurons from patient fibroblasts.

NIH/NINDS R21 (NS112910) (PI) $398,750; 04/01/2020-10/31/2021
Title: *Determining the Pathogenesis of DYT1 Dystonia in Reprogrammed Human Neurons*
Source: NINDS Exploratory Neuroscience Research Grant [PA18-358]
Overall goal: To determine the pathogenesis of childhood onset DYT1 dystonia in patient-specific neurons that are generated by direct conversion and iPSC-based reprogramming and differentiation.

PROFESSORSHIP JAMES H. HARPER SOUTH LA. MID-WINTER FAIR ASSOCIATION/BORSF 2020-2013

Lahaye Faculty Development Grant (PI) 2020
This fund is intended to support undergraduate researchers working on biomedical studies.

Faculty Start-up Package (PI) 2018-2022
Title: New laboratory set up.
Source: University of Louisiana at Lafayette

Enhancement of Biology Research and Teaching through Personal Flow Cytometry (Co-PI)
06/01/2020-06/30/2021, $85,553.50
Source: Louisiana Board of Regents Support Fund, Departmental Enhancement
Goals: To improve the educational and research infrastructure in the department of Biology in UL Lafayette

Completed

Lahaye Faculty Development Grant (PI) 2019
This fund is intended to support undergraduate researchers working on biomedical studies.

NIH/NIA P30-12300-21 (PI) $65,000.00; 2017 -2018
Title: *Nucleocytoplasmic Transport Defect in Alzheimer's Disease*
Source: The Friends of the Alzheimer's Disease Center and NIH Alzheimer's Disease Center
Major goal: to understand how nucleocytoplasmic transport defect contributes to Alzheimer's disease (AD) by using mouse primary neurons, mammalian cell lines and directly reprogrammed neurons (diNs) from fibroblasts of AD patients.

HONORS AND AWARDS

South Louisiana Mid-Winter Fair Association/BORSF Professorship (2020-2023)
DoD Peer Reviewed Medical Research Program (PRMRP) Discovery Award (2020)
Lahaye Faculty Development Grant (2019, 2020)
Alzheimer's Disease Research Award from Friends of the Alzheimer's Disease Center (2017)
American Association of Anatomists (AAA) Travel Award (2013, 2014)
American Society for Microbiology Postdoctoral Research Fellowship Program (2010, declined)
Guang Hua Scholarship (2002, 2003)
Undergraduate Scholarship (1997, 1998, 2000)
Excellent Student Award (1997, 1999)

PROFESSIONAL ACTIVITIES

Professional Services

Associate Editor
Frontiers in Molecular Neuroscience (2018-)

Editorial Board
American Journal of Psychiatry and Neuroscience (AJPN) (2020-);
Austin Neurology (2016-2018);
Journal of Autism & Related Disabilities (2016-2018);
Journal of Down Syndrome & Chromosome Abnormalities (2015-2017);
Frontiers in Molecular Neuroscience (2013-2018)

Grant Reviewer
Congressionally Directed Medical Research Programs (CDMRP) Peer Reviewed Medical Research Program (PRMRP) Scientific Reviewer Neurological Disorders (ND) Panel (2021).
European Research Council (ERC) grant review (2016)

Ad Hoc Reviewer: *Neurobiology of Disease; Scientific Reports; Journal of Cellular Biochemistry; Journal of Cellular and Molecular Medicine; Frontiers in Molecular Neuroscience*, *Analytica Chimica Acta, Frontiers in Computational Neuroscience, Journal of Neurosciences in Rural Practice,* Neural Regeneration Research, JoVE etc.

Scientific Member (current):

Member of American Society for Cell Biology (ASCB) (2017-)
Member of Society for Neuroscience (2014-)

University Services

Faculty Search Committee for Physiologist (2019-2020)
Pre professional Committee (2020- present)
-Review applicants for professional school and write letters of support.

Community services

Louisiana Region VI Science and Engineering Fair Judge 2019
Massachusetts State Middle School Science and Engineering Fair Judge (2014-2016)
Reuters Health
http://www.psychcongress.com/article/tiny-brain-organoids-show-neuron-differentiation-autism-23405

ORAL PRESENTATIONS AND INVITAED TALKS (in recent 5 years)

1. May 3, 2021. *Nucleocytoplasmic Transport and Its Linkage to Aging and Neurological Diseases.* Department of Neuroscience & Regenerative Medicine, Medical College of Georgia at Augusta University. Augusta, GA (Host: Dr. Dave Blake)
2. April 28, 2021. *Nucleocytoplasmic Transport and Its Linkage to Aging and Neurological Diseases.* Sponsored by the Dept. of Biochemistry & Molecular Biology and the Oklahoma Center for GeroScience and Healthy Brain Aging. The University of Oklahoma Health Sciences Center (OUHSC), Oklahoma City, OK. (Host: Drs. Ann Olson and William Sonntag)
3. February 23, 2021. *Nucleocytoplasmic Transport and Its Linkage to Neurological Diseases.* Department of Cell Biology and Anatomy, LSU Health Shreveport, Shreveport, LA (Host: Dr. Kevin McCarthy)
4. January 5, 2021. *Impaired Nucleocytoplasmic Transport in Neurological Diseases.* Department of Biochemistry and Molecular Biology, LSU Health Shreveport, Shreveport, LA (Host: Dr. Stephan N. Witt)
5. January 23, 2020. *Impaired Nucleocytoplasmic Transport in Neurological Diseases.* Department of Biological Sciences, University of Texas at Dallas, Dallas, TX (Host: Dr. Heng Du)
6. July 19, 2019. *Nucleocytoplasmic Transport in Neurodegenerative Diseases*. National Clinical Research Center for Geriatric Disorders, Xiangya Hospital, Central South University, Changsha, Hunan Province, China. (Host: Dr. Yu Tang)
7. May 7, 2018. *Spatiotemporal Regulation of Gene Expression*. Department of Biology, University of Louisiana at Lafayette, Lafayette, LA. (Host: Dr. Karl H. Hasenstein)
8. April 25, 2016. *Spatiotemporal Regulation of Gene Expression in Neurodevelopment and its Linkage to Neurological Diseases*. Department of Molecular Biology, UT Southwestern Medical Center, Dallas, TX (Host: Dr. Chun-Li Zhang)
9. January 4, 2016. *Nuclear Envelope Budding Pathway: from Drosophila to Mammals*. Department of Neurobiology, UMass Medical School, Worcester MA

POSTER PRESENTATIONS (in recent 5 years)

1. **Ding B.** *Modeling Neurodegenerative Diseases via Generation of Patient-specific Neurons*. June 7-9, 2021. Keystone Symposia. Neurodegenerative Diseases: Genes, Mechanisms and Therapeutics. (Abstract Accepted)
2. **Ding B.**,Yu T. and Zhang C-L. *Dysregulated nuclear LMNB1 and impaired nucleocytoplasmic transport in Dystonia patient-derived neurons.* The American Society for Cell Biology (ASCB) and Annual Meeting. December 2-16, 2020. ASCB/EMBO Virtual Meeting.
3. K Selvam, **B Ding**, R Sharma and S Li. *Promotion of error-free transcriptional bypass of DNA lesions is essential for Rad26 to facilitate transcription coupled DNA repair*. ENVIRONMENTAL AND MOLECULAR MUTAGENESIS 59, 71-71, 2018.
4. **Ding, B.,** Dobner PR. and Kilpatrick DL. *Nuclear Factor One (NFI)-Dependent Developmental Program Directs the Timing of Gene Expression in Maturing Neurons.* The American Society for Cell Biology (ASCB) Annual Meeting. December 2-6, 2017. Philadelphia, Pennsylvania.

5. **Ding B.**, Mirza A.M., Budnik V. and Munson M. *An alternative nuclear export pathway in Saccharomyces cerevisiae.* The American Society for Cell Biology (ASCB) Annual Meeting. December 3-7, 2016. San Francisco, California.

TEACHING

- **Fall Semester (2018- present)**
  BIOL-457(G), Advanced Cell Biology, CRN 224133, 3 Credits Lecture
  This course aims to examine life at its most fundamental level, including mechanisms and pathways responsible for membrane transport, metabolism, gene expression, protein synthesis and secretion, membrane trafficking, cytoskeleton dynamics, and cell signaling.
  BIOL-458(G), Advanced Cell Biology Lab, 2 Credits, 4 Hours Lab
  This class is intended to immerse students in the process of performing scientific experiments, through which students will master some experimental skills, acquire the capabilities for data analysis and result interpretation. The model system will be cultured mammalian cells and/or fixed cells on slides.
  BIOL-410, 1-6 Credit(s) Individual Project
  Cellular and Molecular Neuroscience - from Basic Knowledge to Advanced Techniques

- **Spring Semester (2019-present)**
  BIOL-472(G), Neurophysiology, 3 Credits Lecture
  This course aims to understand neurophysiological activities at cellular and molecular levels and their linkage to human neurological diseases.
  BIOL-473(G), Neurophysiology Lab, 1 Credit Lab
  BIOL-410, 1-6 Credit(s) Individual Project
  Cellular and Molecular Neuroscience - from Basic Knowledge to Advanced Techniques

STUDENTS/POSTDOCS MENTORED (*co-authors of publication)

Postdoc Researcher/Visiting Scholar Mentored

1. *Dr. Masood Sepehrimanesh (Ph.D., D.V.M., Shiraz University of Medical Sciences, Shiraz, Iran. Postdoctoral Research Associate, 03/2020- present)
2. Dr. Ameneh Zare-Shahabadi (M.D. Tehran University of Medical Sciences, Iran. Research Assistant, 2018-2019, UL Lafayette. Current: Medical Doctor, Cincinnati, OH)

Graduate Students (Major Advisor)

1. *Masuma Akter (PHD, 08/2019-, UL Lafayette)
2. Jacob Stagray (PHD, 08/2019-, UL Lafayette)
3. *Haochen Cui (PHD, 01/2020-, UL Lafayette)
4. Casey Cottee (MSci, 08/2020-, UL Lafayette)
5. Abir Hosain (PHD, 01/2021-, UL Lafayette)
6. Makaila Mitchell (MSci, 01/2019-12/2019, UL Lafayette)

Graduate Students (Committee Member)

1. Santosh Paudel (PhD, UL Lafayette, 2018-)
2. Brittany M. Pitrucha (PhD, UL Lafayette, 2018-)
3. Chukwunonso Chukwudozie (MSc, UL Lafayette NIRC, 2018-2020)
4. Alex Esteve, (MSc. UL Lafayette, 2018-)

5. Jachie Barua, (PhD, UL Lafayette, 2019-)

Undergraduate students (From >20)

1. Catherine Wertz (Scholarship, Biology major, UL Lafayette. 01/2020-)
2. Bennett Garbarino (Scholarship, Biology major, UL Lafayette. 08/2018-12/2020)
3. Matthew Authement (Scholarship, Biology major, UL Lafayette. 08/2018-05/2020)
4. Casey A. Coutee (Undergraduate Researcher, Biology major, UL Lafayette. 01/2019-05/2020)
5. Bao Doan (BIOL410, Biology major, UL Lafayette. Fall 2019, Spring 2020)
6. Audrey Lumpki (BIOL410, Biology major, UL Lafayette. Fall 2019)
7. Erin Miller (BIOL410, Biology major, UL Lafayette. Fall 2019)
8. Joy Aniede (STARS Summer Research Program, 2017, UT Southwestern Medical Center)
9. Adrienne Lemieux (Worcester State University, 2016, UMass Medical School)
10. Alexandra D'Ordine (Worcester Polytechnic Institute, Class of 2017; 2015 at UMass Medical School
11. Emily Vancor (NIH, MIT 2014; 2013 at UMass Medical School)
12. *Marina Bartzokis (2012-2014, UMass Medical School)

LINKS

Ding Lab
www.DingLabBiomed.com

Google Scholar Profile
https://scholar.google.com/citations?user=gGuQKNIAAAAJ&hl=en