

PROMOTION RECOMMENDATION  
THE UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF CELL AND DEVELOPMENTAL BIOLOGY

Jiandie Lin, Ph.D., associate professor of cell and developmental biology, with tenure, Department of Cell and Developmental Biology, Medical School, is recommended for promotion to professor of cell and developmental biology, with tenure, Department of Cell and Developmental Biology, Medical School [also being promoted to research professor, Life Sciences Institute].

Academic Degrees:

Ph.D.	2000	Northwestern University
B.S.	1994	Peking University

Professional Record:

2011-present	Associate Professor of Cell and Developmental Biology, University of Michigan
2011-present	Research Associate Professor, Life Sciences Institute, University of Michigan
2005-2011	Assistant Professor of Cell and Developmental Biology, University of Michigan
2005-2011	Research Assistant Professor, Life Sciences Institute, University of Michigan
2003-2005	Instructor, Department of Cell Biology, Harvard Medical School

Summary of Evaluation:

Teaching: Dr. Lin is involved extensively in classroom and laboratory teaching. He conducts lectures for MI Histology, Dental Histology (DENT638), and Graduate Histology (CDB 450/550), and serves as a discussion leader for CDB530 (Cell Biology). Dr. Lin has also been a graduate student seminar evaluator for Graduate Seminar (CDB801). In addition to Dr. Lin's classroom instruction, he is very active in teaching biomedical research skills and training post-doctoral fellows, graduate and undergraduate students, and research technicians in his laboratory. He has mentored 12 post-doctoral fellows (six are current) and one research track faculty member. Also, Dr. Lin mentors three Ph.D. graduate students who have successfully completed doctoral thesis research. Two of the students were awarded the prestigious American Heart Association pre-doctoral fellowship. Four post-doctoral fellows have been awarded American Heart Association post-doctoral fellowship and Scientist Development Grants, which provides transitional funding for junior faculty. Dr. Lin has served or continues to serve on 15 graduate dissertation committees and 10 Ph.D. candidacy examination committees.

Research: The central theme of Dr. Lin's research program is to elucidate the cell-intrinsic mechanisms that regulate metabolic specification/reprogramming and signal mechanisms responsible for the crosstalk and integration at the systemic level. His work has provided important insights on three fundamental questions: (1) How do chromatin factors link nutrient signaling to metabolic gene programs? Dr. Lin discovered a novel mechanism that links oxidative and glycolytic energy metabolism to the contractile properties of slow- and fast-twitch muscle fibers, respectively. His studies have helped identify the missing link between skeletal muscle energy metabolism, contractile function and insulin sensitivity. (2) What drives circadian metabolic rhythms? Temporal organization of nutrient and energy metabolism is a fundamental aspect of metabolic homeostasis. Dr. Lin's work delineated novel pathways involving transcription factors and coactivators that integrate glucose, lipid, and mitochondrial energy metabolism to the biological clock. (3) What is the nature of secreted factors governing metabolic crosstalk and systemic homeostasis? Dr. Lin's recent work has delineated a novel signaling mechanism involving secreted factors that mediate the metabolic action of thermogenic adipocytes. This work also provides a basis for the development of novel biologic therapeutics for treating obesity-associated disorders. Dr. Lin has published in many high-profile journals including *Nature*, *Nature Medicine*, *Molecular Cell*, and *Cell Metabolism*. He is sought after as a speaker at international and national conferences as well as public and private academic institutions.

Recent and Significant Publications:

Ma D, Panda S, Lin JD: Temporal orchestration of circadian autophagy rhythm through C/EBP $\beta$ . *The EMBO Journal* 30:4642-4651, 2011.

Molusky M, Li S, Ma D, Yu L, Lin JD: Ubiquitin-specific protease 2 regulates hepatic gluconeogenesis and diurnal glucose metabolism through 11 $\beta$ -hydroxysteroid dehydrogenase 1. *Diabetes* 61:1025-1035, 2012.

Meng Z, Li S, Ko HJ, Lee Y, Okutsu M, Yan Z, Kim JK, Lin JD: BAF60c drives glycolytic muscle formation and improves glucose homeostasis through Deptor-mediated AKT activation. *Nature Medicine* 19:640-645, 2013.

Zhao XY, Li S, Wang GX, Yu Q, Lin JD: A long noncoding RNA transcriptional regulatory circuitry drives thermogenic adipocyte development. *Molecular Cell* 55:372-382, 2014.

Wang GX, Zhao XY, Meng ZX, Kern M, Dietrich A, Zhou D, Okunade AL, Su X, Li S, Blüher M, Lin JD: The brown fat-enriched secreted factor Nrg4 preserves metabolic homeostasis through attenuating hepatic lipogenesis. *Nature Medicine* 20:1436-1443, 2014.

Service: Dr. Lin has served as the chair of the CDB Graduate Recruitment Committee for two years and the CDB Executive Committee for five years. He has served on the Executive Committee of the Life Sciences Institute and is currently serving on the LSI Director search committee. Dr. Lin is a member of the American Diabetes Association, American Heart Association, and The Endocrine Society. He provides peer-review service for various journals and serves as a grant reviewer for the American Diabetes Association and the NIH.

External Reviewers:

Reviewer A: “Dr. Lin’s work has contributed exquisite detail to the rich tapestry that is mammalian metabolic regulation and has provided groundbreaking insights that have influenced thought on the pathophysiology of obesity and type 2 diabetes. It is therefore not surprising that his work has been published in the most rigorous scientific journals in the field, and that his citations have been impressive....I would place Dr. Lin’s work, reputation and contribution to the field in the top 5% of all investigators in the area of metabolic regulation and the top 1% of investigators at his career stage.”

Reviewer B: “Dr. Lin’s recruitment to the Life Sciences Institute at the University of Michigan in 2005 was a major coup, and he has been highly successful in setting up his own laboratory and establishing an excellent international reputation, on the basis of which he was promoted to Associate Professor in 2011. Since that time Dr. Lin has remained productive, studying circadian transcriptional metabolic regulation, with numerous senior author papers in excellent journals...He has also maintained independent funding and been an invited speaker at international meetings and academic centers.”

Reviewer C: “[Dr. Lin] has continued to maintain an exemplary record of productivity and he has established himself as an international leader in a hot area – the intersection of circadian biology and metabolism. His work is imaginative, innovative and high impact.”

Reviewer D: “...it is clear that within his laboratory he has created a very strong and successful research training experience for a large number of undergraduate, graduate, post-graduate and postdoctoral students....Dr. Lin is an outstanding, world-renowned research scientist that has made and will continue to make breakthrough findings in our understanding of the regulatory mechanisms controlling metabolism and energy balance at the molecular, cellular, tissue in whole body integrative physiology. He has become, without any doubt, one of the top leaders in this field and his cutting-edge research program provides the framework by which other laboratories follow.”

Reviewer E: “...I can’t think of a more deserving individual for promotion to Professor...his impact on physiologic and pathophysiologic metabolic pathways and their control by a variety of stimuli, including circadian rhythms, is broadly applicable to many fields.”

Reviewer F: “Dr. Lin is a leading investigator in the field of metabolism and an expert in thermogenesis, mitochondrial biology and brown fat function. He has been exceptionally productive, and has consistently published in leading journals....The impact of the work has been very high and his work is innovative and original.”

Summary of Recommendation:

Dr. Lin has achieved a consistent record of exceptional scholarship and funding since coming to Michigan. The high quality of his research is recognized by colleagues here as well as at other premier institutions. His expertise in metabolism and transcriptional regulation and his extremely strong publication record are widely acknowledged. He is an excellent teacher and mentor. Dr. Lin has assumed many administrative responsibilities within the university, and chairing as well as serving on numerous committees in the Department of Cell and Developmental Biology. I am pleased to recommend Jiandie Lin, Ph.D. for promotion to professor of cell and developmental biology, with tenure Department of Cell and Developmental Biology, Medical School.



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Marschall S. Runge, M.D., Ph.D.  
Executive Vice President for Medical Affairs  
Dean, Medical School

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