Approved by the Regents
May 21, 2015

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF CARDIAC SURGERY

Zhong Wang, Ph.D., assistant professor of cardiac surgery, Department of Cardiac Surgery, Medical School, is recommended for promotion to associate professor of cardiac surgery, with tenure, Department of Cardiac Surgery, Medical School.

Academic Degrees:

Ph.D.	1999	Oregon Health and Science University (Year of Conferral 2000)
M.S.	1993	Chinese Academy of Sciences, Beijing China
B.S.	1990	Fudan University, China

Professional Record:

2013-present	Assistant Professor of Cardiac Surgery, University of Michigan
2008-2013	Assistant Professor of Medicine, Harvard Medical School
2005-2007	Instructor in Medicine, Harvard Medical School

Summary of Evaluation:

Teaching: Dr. Wang maintains an active teaching and mentoring role. He currently has five post-doctoral fellows in his lab. His six former post-doctorals have moved into successful careers in academia or biotechnical firms. In addition, he has taught and mentored undergraduate and graduate students. His former trainees describe in detail the deep understanding of his research, his meticulous preparation, and his facility for teaching skills needed for the research. He also has a vision for each of his trainees, providing practical advice, a 'big picture' orientation, and ongoing mentoring as they develop their careers. Beyond his own laboratory, he is a training faculty member in PIBS, CMB, and the Center for Organogenesis. In his collaborations with other researchers, he has been involved in mentoring researchers and trainees in their labs as well. He will also participate in teaching medical students, fellows, residents, and researchers at the University of Michigan including taking part in the didactic lecture schedule for our Thoracic Surgery Residency Program.

Research: Dr. Wang's research focus is on the generation, differentiation, and epigenetic control of cardiac progenitor and stem cells. The long-term goal of his laboratory is the development of stem-cell based therapies to address cardiac problems. Dr. Wang has established himself as a leader in epigenetic regulation of cardiogenesis, cardiac pathogenesis, and cardiac stem cell differentiation. He is also leading the world in generating stable genetic modified swine animal models for cardiac stem cell lineage tracing and regeneration. Dr. Wang is currently developing a state-of-the-art platform to transplant cardiac progenitor cells to regenerate heart tissues in swine models. Dr. Wang has been the principal investigator on several previous grants and is currently funded by an NIH R01, by a pilot grant from the Joint Institute of the University of Michigan Health System and Peking University Health Science Center for Translational and

Clinical Research, as well as a Cardiovascular Center Inaugural Grant and departmental funding. Dr. Wang also submitted an R01 (10/2014) entitled "Determine the therapeutic potential of cardiac progenitor cells with swine reporter models and tissue engineering technologies." Dr. Wang has published 27 peer-reviewed articles and book chapters (eight since joining our faculty) with another three submitted for publication. Since his appointment here, he has conducted eight seminars on his research in this country and in China. He has given six extramural presentations in the United States, China, and Mexico.

Recent and Significant Publications:

Gao X, Tate P, Hu P, Tjian R, Skarnes WC, Wang Z: ES cell pluripotency and germ layer formation require the SWI/SNF chromatin remodeling component BAF250a. *Proc Natl Acad Sci U S A.* 105:6656-6661 2008.

Huang X, Gao X, Trelles R, Ruiz-Lozano P, Wang Z: Coronary development is regulated by ATP-dependent chromatin remodeling component BAF180. *Dev Biol* 319:258-266, 2008.

Lei I, Gao X, Sham MH, Wang Z: SWI/SNF component BAF250a regulates cardiac progenitor cell differentiation by modulating chromatin accessibility during secondary heart field development. *J Biol Chem* 287:24255-24262, 2012.

Wu M, Peng S, Yang J, Tu Z, Cai X, Cai C, Wang Z*, Zhao, Y:* (*Corresponding authors). Baf250a orchestrates an epigenetic pathway to repress the *Nkx2.5*-directed contractile cardiomyocyte program in the sinoatrial node. *Cell Res* 24:1201-1213, 2014.

Li X, Yang Y, Bu L, Guo X, Tang C, Song J, Fan N, Zhao B, Ouyang Z, Liu Z, Zhao Y, Yi X, Quan L, Liu S, Yang Z, Ouyang H, Chen YE, Wang Z*, Lai L:* (*Corresponding authors). Rosa26-targeted swine models for stable gene over-expression and Cre-mediated lineage tracing. *Cell Res* 24: 501-504, 2014.

Service: Dr. Wang is a member of four prestigious national and international professional societies. He is a reviewer for sixteen journals. He has served on study sections in France, the United Kingdom, China, and Hong Kong, as well as the United States.

External Reviewers:

Reviewer A: "Dr. Want [sic] has developed a regional and national reputation in the field of cardiac progenitor cells and is an international leader in the nascent field of BAF250a, which would enhance the expertise and creditability [sic] of the programs at University of Michigan Medical School."

Reviewer B: "Dr. Wang has clearly acquired a national and international reputation as one of the leaders in the field of SWI/SNF research, as witnessed by his publication record, invitations to be a reviewer on national and international review panels, and as a reviewer for highly regarded journals."

Reviewer C: "Dr. Wang's current research projects that take advantage of progenitor cells and large animal models that he developed promise to make contributions towards combating heart diseases. His research is original and significant; Dr. Wang is in an ideal position to take advantage of new technologies, make discoveries and inroads to answer challenging questions in regenerative medicine."

Reviewer D: "I strongly believe that Dr. Wang's own research expertise, combined with his collaboration with the world experts in reprogramming and bio-engineers will result in high impact discoveries in heart regeneration."

Reviewer E: "He has successfully created, to my knowledge, the first transgenic swine model allowing for Cre-mediated cell fate mapping, which will significantly advance not only [the] cardiac development field but also other biomedical research field[s]...I strongly believe that the studies that Dr. Wang is conducting are vital to the biomedical research field."

Summary of Recommendation:

Dr. Wang has established himself as an expert in the field of stem cell research. His field of inquiry includes epigenetic events in stem cell regeneration and a collaborative and systematic design of combining advanced cell source, biometric carrier, and swine animal models for heart regeneration research with other researchers. His accomplishments in research and teaching are highly regarded by his peers. I am pleased to recommend Zhong Wang, Ph.D. for promotion to associate professor of cardiac surgery, with tenure, Department of Cardiac Surgery, Medical School.

James O. Woolliscroft, M.D.
Dean
Lyle C. Roll Professor of Medicine

May 2015