Approved by the Regents May 15, 2014

PROMOTION RECOMMENDATION
The University of Michigan
College of Pharmacy

Wei Cheng, assistant professor of pharmaceutical sciences, College of Pharmacy, is recommended for promotion to associate professor of pharmaceutical sciences, with tenure, College of Pharmacy.

Academic Degrees:

Ph.D.	2002	Washington University School of Medicine, St. Louis
B.S.	1995	University of Science and Technology of China

Professional Record:

2009-present	Assistant Professor of Pharmaceutical Sciences, University of Michigan
2002-2008	Post-doctoral Fellow, University of California, Berkeley

Summary of Evaluation:

Teaching: Professor Cheng is a dedicated educator who takes his teaching responsibilities very seriously. He has taught in several professional and graduate degree courses and has demonstrated a commitment to excellence through his efforts. His teaching performance in the professional and graduate degree programs is well received by students, receiving excellent evaluations. In addition to didactic teaching, Professor Cheng has established a rigorous and innovative laboratory training program mentoring five graduate students, six post-doctoral trainees, and six undergraduate students to date, and he has graduated one of his Ph.D. students. Professor Cheng has also served on ten dissertations committees for doctoral students. His overall teaching performance and dedication is very strong.

Research: Professor Cheng is an outstanding scientist who is already viewed as a pioneer in his field, having established three significant and innovative research programs in his laboratory in the areas of: HIV infection and intervention, hepatitis C virus/NS3 helicase, and single-walled carbon nanotubes. He has made significant scientific contributions, developing new techniques that can be used in his current projects as well as to study other biological nanoparticles, which opens up a whole new field of application for molecular imaging study. For example, he has studied the molecular mechanism of double stranded RNA unwinding at a single base pair level of resolution providing unique insights into this step of viral replication and resulting in a *Science* publication. This indicates the profound level of insight into essential biological processes that he is able to provide with the techniques he has developed and established in his laboratory. He has received significant funding from NIH, NSF, the March of Dimes and 3M for his work and has given 15 invited presentations since joining our faculty. His publications have appeared in high quality journals, including *Langmuir*, *Journal of Physical Chemistry*, *Journal of Molecular Biology*, and *Science*. Professor Cheng has developed a national reputation, and his potential for continued success is very promising.

Recent and Significant Publications:

W. Cheng, C. Wang, W. Chen, Y. Xu and Y. Shi. (1998). Investigating the Dielectric Effects of Channel Pore Water on the Electrostatic Barriers of the Permeation Ion by the Finite Difference Poisson-Boltzmann Method. *Eur. Biophys.* J. 27: 105-112. (Undergraduate publication)

W. Cheng, J. Hsieh, K. M. Brendza and T. M. Lohman. (2001). E. coli Rep Oligomers are required to Initiate DNA Unwinding in vitro. *J. Mol. Biol.* 310: 327-350.

T. Ha, I. Rasnik, W. Cheng, H. P. Babcock, G. H. Gauss, T. M. Lohman and S. Chu. (2002). Initiation and Re-initiation of DNA Unwinding by the E. coli Rep Helicase. *Nature* 419: 638-641.

W. Cheng, K. M. Brendza, G. H. Gauss, S. Korolev, G. Waksman and T. M. Lohman. (2002). The 2B Domain of E. coli DNA Helicase Rep is not Required for Duplex DNA Unwinding Activity. *Proc. Natl. Acad. Sci.*, USA. 99: 16006-16011. (Direct submission)

M. C. Murphy, I. Rasnik, W. Cheng, T. M. Lohman and T. Ha. (2004). A Simple Model for Single Stranded DNA Conformational Flexibility. *Biophys J.* 86: 2530-2537.

I. Rasnik, S. Myong, W. Cheng, T. M. Lohman and T. Ha. (2004). Site-specific Fluorescent Labeling of the E. coli Rep Helicase for Single-molecule Studies of DNA Binding. *J. Mol. Biol.* 336: 395-408.

W. Cheng, S. Arunajadai, J. Moffitt, I. Tinoco, Jr. and C. Bustamante* (2011). Single Base Pair Unwinding and Asynchronous RNA Release by the HCV NS3 Helicase Revealed at Angstrom Level Resolution. *Science* 333: 1746-1749.

Service: Professor Cheng has been an excellent citizen within his profession and college. He has served as a reviewer for the *Journal of Pharmaceutical Sciences* and other scientific journals, as well as the National Science Foundation. He has served on the College of Pharmacy Academic Standing Committee, Strategic Planning Committee and PharmD Student Admissions Committee and has done an outstanding job coordinated the weekly seminar program for the Department of Pharmaceutical Sciences since 2009.

External Reviewers:
Reviewer A: "He has several publications in very high impact journals such as Science, Nature, Cell and PNAS.... He seems to be turning into an excellent instructor, and is playing a significant role, not only with the course load he carries, but also in helping to design courses at both the undergraduate and the graduate level."

Reviewer B: "His research records are outstanding, as shown by the numerous awards he has received. These include the Basil O'Connor Starter Scholar Award, NIH Director's New Innovator Award, NSF Faculty Early Career Development (CAREER) Award, and George Fishman Memorial Fund Award....His publication record is outstanding....He has made major contributions to the field....This record is exceptionally good compared to his peer group working in the same field."

Reviewer C: "Dr. Cheng has made remarkable progress in research....I consider the quality and scientific impact of these publications significant....What impresses me the most is the concurrent CAREER Award from NSF and NIH Director's New Innovator Award, a rare distinction that very few assistant professors hold.....He has also received other awards and recognitions, nationally and internationally....his contributions to teaching and services are excellent....Wei Cheng has exceeded every criterion used in your promotion guideline. His funding record is impressive; several papers are top-notch; all these start to generate recognitions at the national and international levels. His contributions to the education at the professional and graduate levels are nothing but excellent."

Reviewer D: "I am impressed with Dr. Cheng's publication record, especially his publications in *Science* and *Cell*....In these funding times, it is extremely difficult to obtain one major research grant before coming up for tenure....Dr. Cheng has *two* major grants, which is truly outstanding....Dr. Cheng is in a league of his own."

Reviewer E: "He is clearly one of the most innovative scientists [of his generation] in this field....I have evaluated several faculty members here...and around the country for promotion to Associate Professor. Based on this experience, I can state that the application for Dr. Wei Cheng is the best application that I have evaluated....His funding level is simply outstanding. His receipt of the highly prestigious NIH

Director's New Innovator Award is a tribute to his creativity and strong work ethic. His ideas and publications demonstrating single molecule/single cell experiments to investigate viral infection are truly ground breaking. The fact that he has also established two additional, highly creative research projects is remarkable, especially in the current funding climate....His paper...in *Science*, is one of the top manuscripts in this field over the past five years....There is no doubt that Dr. Wei Cheng is a rapidly rising star in more than one field of study."

Reviewer F: "Dr. Cheng is a first class scientist who is tackling important problems in the biophysical chemistry of viruses, and who is developing and using state of the art techniques in that pursuit....the quality of the articles is generally superb....I believe the work he has published speaks for itself. I would be thrilled to have someone with Dr. Cheng's interests and abilities in my department."

Reviewer G: "The area of Dr. Cheng's research is timely, critical to the national interest, and clearly in an area where continued funding well into the future should be possible. His publication record...is in the 'superior' level while having research support under the current environment is excellent...the quality and quantity of his grant record is quite impressive. To consistently have this type of funding says that his peers, even those outside of the pharmaceutical sciences, respect his work and consider it novel and cutting edge."

Reviewer H: "I have read a number of his papers and find them to be models of innovation and rigor applied to important biological questions.... Dr. Cheng has a number of publications that I would consider outstanding....The invitation to present a plenary lecture at the 2013 OSA Optics & Photonics Congress (2013), the NSF Career Award (2012) and NIH Director's New Innovator Award (2011) are a stunning trifecta of recognition for his accomplishments and promise as a research scientist....It is also reflected in a superb funding record in a very tough funding environment. I am confident his fundability should continue well into the future given the importance of the problems."

Reviewer I: "Dr. Cheng has clearly demonstrated his potential as a pioneer and leader in his field and the critical ability as a superb researcher in identifying important problems to study. The quality and impact of journals where Dr. Cheng has published certainly place him at the very top of his peer group. He is expected to have a spectacular research career ahead of him."

Summary of Recommendation

Professor Cheng is an outstanding scientist and dedicated educator who has made excellent progress and whose prospects for future success are excellent. His innovative research has been recognized with several awards, and his commitment to teaching and service is outstanding. It is with the support of the College of Pharmacy Executive Committee that I recommend Wei Cheng for promotion to associate professor of pharmaceutical sciences, with tenure, College of Pharmacy.

Frank J. Ascione
Dean, College of Pharmacy

May 2014