

PROMOTION RECOMMENDATION
THE UNIVERSITY OF MICHIGAN
MEDICAL SCHOOL
DEPARTMENT OF BIOLOGICAL CHEMISTRY

Uhn-Soo Cho, Ph.D., assistant professor of biological chemistry, Department of Biological Chemistry, Medical School, is recommended for promotion to associate professor of biological chemistry, with tenure, Department of Biological Chemistry, Medical School.

Academic Degrees

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| Ph.D. | 2007 | University of Washington |
| M.S. | 2000 | Korea University |
| B.S. | 1998 | Korea University |

Professional Record

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| 2014-2018 | Assistant Professor of Biophysics, University of Michigan |
| 2012-present | Assistant Professor of Biological Chemistry, University of Michigan |

Summary of Evaluation:

Teaching: Dr. Cho is a dedicated educator with extensive teaching. He has given lectures in multiple courses since his appointment as assistant professor, including Biolchem 597 (Critical Analysis), Biolchem 711 (Graduate Seminar), Biolchem 550 (Macromolecular Structure and Function), Biolchem 690 (Biochemical Regulatory Mechanisms) and Biolchem 415/515 (Introductory Biochemistry). Dr. Cho serves as the co-director of the Biolchem 690 course. These courses consist of both graduate and undergraduate students with class sizes ranging from six students to over 200 students. Dr. Cho served as a member on seven dissertation committees with students from the Departments of Biological Chemistry, Cancer Biology, and Biophysics. He has served on seven dissertation committees. Dr. Cho has mentored seven undergraduate students, one graduate student, three post-doctoral fellows, and two visiting scholars.

Research: Dr. Cho's main research focus is to understand how protein-protein interactions mediate and facilitate biological and chemical functions using both x-ray crystallography and single-particle cryo-electron microscopy (cryo-EM) as the main research tools. He has made broad and significant contributions in the fields of epigenetics, metabolic homeostasis, and environmental chemistry by determining structures of key proteins and protein complexes in each of these research areas. In recent years, he has focused on utilizing state-of-the-art cryo-EM in his laboratory to solve structures of the kinetochore and nucleosome-associated protein complexes. His work furthers our understanding of chromatin reorganization during cell division, regulation of metabolism, and the bioremediation of environmental contaminants. Dr. Cho has received funding for his research with grants from the National Research Foundation, NIH, the University of Michigan Cancer Research Committee, and the Biomedical Research Council. He is the principal investigator or co-investigator on all of these grants. The high level and importance of Dr. Cho's work is recognized by the seventeen speaking engagements he has been invited to give since 2006, both nationally and internationally. Dr. Cho is renowned within the structural and enzymatic community, but also in the general science community. He has a stellar publication record, with 23 articles printed in high impact journals

over the course of his career. Dr. Cho received the Basil O'Connor Scholar Research Award from the March of Dimes in 2015 and the American Diabetes Association Junior Faculty Award in 2016.

Recent and Significant Publications:

An S, Koldewey P, Chik J, Subramanian L, Cho U: Eic1 binding to Mis16 redirects the biological function of Mis16 from a histone H4 chaperone to a CENP-A assembly factor. *Structure* 26(7) 960-971, 2018.

An S, Yoon J, Kim HS, Song J, and Cho, U: Structure-based nuclear import mechanism of histone H3 and H4 mediated by Kap123. *eLife* 6:e30244, 2017.

Kim H, An S, Ro S, Teixeira F, Park G, Kim C, Cho C, Kim J, Jakob U, Lee J, Cho U: Janus-faced Sestrin2 controls ROS and mTOR signaling through two separate functional domains. *Nature Communications* 6, 2015.

An S, Kim H, Cho U: Mis16 Independently Recognizes Histone H4 and the CENP-A^{Cnp1}-Specific Chaperone Scm3sp. *Journal of Molecular Biology* 427(20): 3230-3240, 2015.

Lee S, McCormick M, Lippard S, Cho U: Control of substrate access to the active site in methane monooxygenase. *Nature* 494(7437): 380-284, 2013.

Service: Dr. Cho has served on the Department of Biological Chemistry Retreat Committee, the Advisory Committee, Graduate Student Admission Committee, Faculty Recruiting Committee and Diversity and Equity Inclusion Committee. He is a member of the American Society for Biochemistry and Molecular Biology and has been a reviewer for four journals, including *Scientific Reports*, *Nucleic Acid Research*, *Nature Structural and Molecular Biology* and *Molecular Biology of the Cell*.

External Reviewers:

Reviewer A: "In addition to his work on chromatin and centromere specificity, he is working on other biological problems regarding stress-inducible proteins and the mechanism of methane conversion to methanol. This shows great scientific breadth and it is very impressive that he has been able to impact multiple fields with his work."

Reviewer B: "I think the likelihood of Dr. Cho to generate higher future impact in science is high...I think Dr. Cho deserves to be promoted to Associate Professor, based not only on what he has contributed in the past five years but also on his potential to produce more exciting science in the years to come."

Reviewer C: "Dr. Cho established a fruitful collaboration with a group working on centromeres in fission yeast to complement his mechanistic structural work with rigorous genetic analysis. Dr. Cho has similarly developed strong collaborations on his other projects, which is a testament to his ability to identify complementary expertise."

Reviewer D: "Dr. Cho did well in his role as a faculty member at the University of Michigan.

Given his enthusiasm for science and scientific excellence I have no hesitation to recommend his promotion to associate professor with tenure.”

Reviewer E: “It is hard not to be excited about Dr. Cho’s prospects as a scientist. He has been scholarly and focused and his mechanistic and structural studies aimed at providing a thorough understanding of the underlying biochemical and molecular questions has been exemplary.”

Reviewer F: “His active research is supported by his funding and publication record with high impact. These attributes would make Dr. Cho a valuable tenured associate professor in any excellent universities and institutes in the US and worldwide.”

Reviewer G: “Although for many [junior] PI’s, this diversity of research projects might cause one to be spread ‘too thin,’ this is clearly not the case with Dr. Cho. Rather, he has and is continuing to make important, impactful contributions to each research program.”

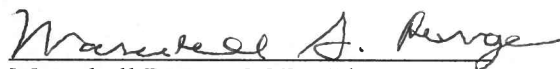
Reviewer H: “Thus, this bridging of one general chromatin component with a centromere specific factor was able to distinguish the centromere specific complex from other histone complexes in the cell. His most recent work has built off of this initial observation and in my opinion provides one of the more important insights into centromere assembly in the past several years. I am confident he will continue to provide new and exciting mechanistic insight into difficult and important cell biology questions.”

Reviewer I: “It is difficult for newly independent structural biologists to produce multiple new structures, and Dr. Cho’s body of structural results on diverse topics is to be commended. In my opinion, Dr. Cho is a caliber of scientist that deserves long term investment.”

Reviewer J: “To summarize, the research program of Dr. Cho’s laboratory is characterized by its novelty, high impact, and broad breath. I am confident to say that his promotion to Associate Professor with tenure will be fully justified in any institute nation-wide.”

Summary of Recommendations:

Dr. Cho is a highly skilled basic scientist and important educator who is poised to continue to make leadership contributions in his field. I am pleased, therefore, to recommend Uhn-Soo Cho, Ph.D. for promotion to associate professor of biological chemistry, with tenure, Department of Biological Chemistry, Medical School.



Marschall Runge, M.D., Ph.D.
Executive Vice President for Medical Affairs
Dean, University of Michigan Medical School

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