PROMOTION RECOMMENDATION The University of Michigan Law School

W. Nicholson Price, assistant professor of law, Law School, is recommended for promotion to professor of law, with tenure, Law School.

Academic Degrees:		
J.D.	2011	Columbia Law School, New York, NY
Ph.D.	2010	Columbia Univ., Dept. Bio. Sciences, New York, NY
M.Phil.	2008	Columbia Univ., Dept. Bio. Sciences, New York, NY
M.A.	2007	Columbia Univ., Dept. Bio. Sciences, New York, NY
A.B.	2004	Harvard University, Bio. Sciences, Cambridge, MA
Professional Record		
2016-Present	Ľ	Assistant Professor, Law School, University of Michigan
2014-2016		Assistant Professor, University of New Hampshire School of Law
2012-2014		Academic Fellow, Petrie-Flom Center for Health Law Policy, Biotechnology
		and Bioethics
2011-2012		Visiting Scholar, U.C. Hastings College of the Law;
		Law Clerk, Hon. Carlos T. Bea, U.S. Court of Appeals, Ninth Circuit

Summary of Evaluation

<u>Teaching:</u> Professor Price has taught Patent Law, Health Law, and Innovation and Life Sciences at the Law School. The first two course offerings are important upper-level classes that are regularly taught at most law schools (including Michigan), and the third is a specialized seminar. Professor Price has been a successful and well-regarded teacher. In their written evaluations and in interviews, students refer to his teaching with words such as "excellent," "fantastic," and "engaging," and with assessments such as "the best class I have taken at Michigan Law." Law School colleagues who have witnessed his teaching found him to be clear, knowledgeable, engaging, and generally highly effective, even though he was teaching unusually complex and difficult material. They were also impressed by his ability to encourage participation from every student in the room. In addition, Professor Price makes use of many different approaches to teaching, including highly effective use of various classroom technologies. In sum, Professor Price is already an excellent teacher, and he teaches in areas of increasing importance in the modern economy and regulatory environment.

<u>Research:</u> Professor Price's scholarship focuses on how the law in fact shapes (and ought to shape) the process of innovation in the field of biomedical science. One line of inquiry, for example, examines how law influences the use of artificial intelligence in medicine. This work shows, among other things, that patent law—which works well in some other areas to incentivize innovation—has serious drawbacks in the area of "black-box medicine." As an alternative, Professor Price suggests a new role for the FDA involving procedurally-focused premarket regulatory approval of black-box technology, followed by more intense post-market FDA surveillance, which would include the agency's entering into cooperative data-gathering relationships with industry players. In another related line of research, Professor Price explores the previously unexamined role of innovation policy in the pharmaceutical manufacturing process. He points out that innovation in the manufacturing of pharmaceuticals lags behind innovation of manufacturing in other areas; and he shows why patent law does not solve the problem—and, further, why trade secrecy law makes it even worse. Here again, Professor Price's suggests a new and innovative role for the FDA, while also pointing out

some potential pitfalls to his suggested approach. In yet another thread of his work, Professor Price provides the first comprehensive evaluation of research grants as a tool for encouraging innovation. In this article, he shows why the conventional wisdom in the literature—that grants are inferior to patents, prizes, and other innovative tools—is greatly overstated, using a deep description of the NIH grant process as case study. In general, Professor Price has leveraged his unusual combination of attributes—expertise in intellectual property law and a deep background in biological science—to become (already) one of the leading voices in this growing field.

Recent and Significant Scholarship:

Grants, Berkeley Technology Law Journal (forthcoming) Drug Approval in a Learning Health System, 102 Minnesota Law Review 2413 (2018) Regulating Black-Box Medicine, 116 Michigan Law Review 421 (2017) Promoting Healthcare Innovation on the Demand Side, 4 Journal of Law & the Biosciences 3

(2017) (with Rebecca Eisenberg)

Regulating Secrecy, 91 Washington Law Review 1769 (2016)

Big Data, Patents, and the Future of Medicine, 37 Cardozo Law Review 1401 (2016)

Manufacturing Barriers to Biologics Competition and Innovation, 101 *Iowa Law Review* 1023 (2016) (with Arti Rai)

Service: Professor Price's service record is superior. Within the Law School, he has served on a wide range of committees, and, outside of regular committee work, has contributed significantly to recruiting admitted students to come to Michigan as well as advising current and former students interested in academic careers. He has given numerous talks in various settings in the Law School to faculty, students, and prospective students, and he is a key participant in the intellectual life of the Law School, attending and offering insightful comments at numerous lectures. At the university level, he has been a moderator or a speaker at a number of events (symposia and conferences); he is part of collaborative research efforts at both the Medical School and the School of Public Health; and he is an affiliated faculty member at the Science and Technology Program at the Ford School and member of the Institute for Healthcare Policy. Outside of the university, his presence and involvement in the intellectual life of his field is extraordinary. Among other things, he participated in the National Academies of Science, Engineering, and Medicine's Planning Group on Artificial Intelligence, Health, and Society; he is a co-author on the National Academy of Medicine's forthcoming report on artificial intelligence in medicine and a member of the Duke-Margolis Center's working group on regulation of medical artificial intelligence; he founded and co-chairs the Regulation and Innovation in the Life Sciences Junior Scholars' Workshop; he co-chairs the Junior IP Scholars' Association; and, since he started in law teaching in 2014, he has given academic presentations at over 70 conferences and workshops at many of the top universities in the world.

External Reviewers:

Reviewer A: "Price has carved out a niche at the intersection of patents and trade secrets. In particular, he has effectively raised awareness of the effect that trade secret law has had in extending the patent term. ... Price's work on the effects of trade secrecy offers fresh insight on a significant issue and is welcome in explaining why competition in this area has been less than anticipated. In highlighting these important issues, Price has shown that he is a leading scholar of his generation."

Reviewer B: "[Professor Price's scholarship] always hits the mark of top scholarship: It identifies an important subject, often one that has gone unexplored or at least underexplored, which he then probes with deep analysis and good, clear writing.... All in all, the four articles I reviewed underscore the

high quality of Price's scholarship: its analytical rigor, creative basis, and careful proposals, all trained on very important real-world problems at the intersection of intellectual property and biology."

Reviewer C: "Every law school wants to have the top person in their field and Nicholson is now clearly one of the top, if not the top, [junior] person in his particular niche of this very big field."

Reviewer D: "Nicholson Price is one the very best and most interesting [junior] scholars in my field, which I define, broadly, as 'law and the biosciences.' His work is not just very good, but always interesting and, rarest of all, useful. ... His work combines a deep knowledge of the relevant law with a firm grasp of the relevant science and a real understanding of the practical side of research, development, and innovation. All three of those are in short supply in legal academia (especially the last); his combination of skills there is rare."

Reviewer E: "Overall, each of these articles is well done in what it sets out to do, but none is truly ambitious. In this sample of work, Prof. Price is very skilled at pragmatic policy analysis and has a good eye for important hot topics, but there are no impressive uses of legal theory, social science methods, or deep analysis of the sort that generates truly foundational insights. Despite failing to reach that level, I do think that the first article makes a significant contribution to legal scholarship and that this sample of work is of high quality, demonstrating the care and perception one would expect of a person on the way to becoming a leading scholar."

Reviewer F: "...Price has demonstrated substantial achievement as a scholar, and there is clear promise of future achievement. The work is of high quality, and demonstrates the intelligence, care and perception that one would expect of someone who is becoming a leading scholar in this area. His work also makes a significant contribution to legal scholarship."

Reviewer G: "[With respect to his three black-box medicine papers,] I was impressed...by the clarity of focus and instinct for topics that these three papers show. ... He has addressed a wide range of issues in a set of papers that build upon one another. He has understood a complex literature on algorithmic governance, machine learning, privacy, and FDA regulation, and works across conventional divides to synthesize these literatures in useful ways. He is analytical in his approach, but also problem-focused and practical in his aims ... These three papers are significant accomplishments, and I believe will shape an important emerging literature in important ways."

Reviewer H: "[Regulating Secrecy and Expired Patents] are a valuable source of information, are well-written, and make a positive contribution to the legal literature that pushes the field forward. ... These Articles can be expected to stimulate lively discussion among scholars in the field."

Reviewer I: "Each piece I reviewed shows creativity, originality, and insight. Professor Price has changed the way that I think about the FDA's role concerning data, and he has also made me appreciate the tension between secrecy and the need for validation. He also makes a great argument throughout these articles that cooperation among stakeholders will be necessary for these technologies to develop in a way that benefits society.... Professor Price's work truly charts new territory."

Reviewer J: "I consider Professor Price to be an exceptional scholar in the intellectual property (patents and trade secrets)/innovation/drug and privacy regulation/bio-medical fields. His rare combination of training in biomedical science, intellectual property law, and health care policy, as

well as his understanding of economic and institutional analysis, provide an ideal foundation for the important work that he is pursuing. Professor Price's work demonstrates substantial scholarly achievement as well as tremendous promise of future achievement...His extensive scholarly work across law and bioscience during the early stages of his career amply demonstrate that Professor Price is already a leader in the bioscience policy arena."

Reviewer K: "I would say that the trilogy [of black-box medicine articles] has led to Professor Price being recognized as one of the leading national commentators on legal and policy issues surrounding the use of AI in medicine."

Summary of Recommendation:

Professor Price is an unusually prolific legal scholar (having published over 25 articles, many of which are longer than 50 pages, in the past five years) who has made a significant contribution to scholarship in the areas of law and innovation in the biomedical sciences. He is already considered one of the nation's leading scholars in that field. He is also an excellent teacher, and has provided exemplary service to the Michigan Law School, the university at large, and his field. With the enthusiastic support of the Law School faculty, I am pleased to recommend W. Nicholson Price for promotion to professor of law, with tenure, Law School.

Mark D. West Dean, Law School Nippon Life Professor of Law

May 2019