Approved by the Regents May 15, 2014

PROMOTION RECOMMENDATION
The University of Michigan
College of Literature, Science, and the Arts

Vanessa Sih, assistant professor of physics, College of Literature, Science, and the Arts, is recommended for promotion to associate professor of physics, with tenure, College of Literature, Science, and the Arts.

Academic Degrees:

Ph.D.	2006	University of California, Santa Barbara
B.S.	2001	California Institute of Technology

Professional Record:

2008 – present	Assistant Professor, Department of Physics, University of Michigan
2008	Lecturer, Department of Electrical Engineering, Stanford University
2007 – 2008	Post-doctoral Researcher, Stanford University
2006 – 2007	Graduate Intern Technical, Intel Corporation

Summary of Evaluation:

Teaching – Professor Sih is an engaged and thoughtful pedagogue with an unusually broad range of courses in her repertoire. She has a very strong teaching record and receives high student evaluations. Professor Sih has mentored or supervised eight graduate students and thirteen undergraduate students in her laboratory, and served on a total of 17 doctoral student committees while at U-M. Many of her graduate students have won awards ranging from National Science Foundation fellowships to departmental awards for excellence.

Research – Professor Sih is an experimental physicist who is working in several new areas at the frontier of contemporary condensed matter physics. She has been quite productive with twelve papers since coming to Michigan. Her most significant paper to date appeared this year in *Physical Review Letters*. She also has four papers in *Applied Physics Letters* and one paper in *Nano Letters*. This is quite a good record and shows the growth of a developing lab. Her recognition in the field is reflected in her outstanding funding profile, which exceeds all expectations for a junior faculty member. She has received three single investigator grants (Air Force Young Investigator, Office of Naval Research, and a National Science Foundation CAREER award). She is also a co-principal investigator on three large multi-investigator grants.

Recent and Significant Publications:

"Improving nanophotonic cavity designs with the gravitational search algorithm," with T. W. Saucer, *Optics Express*, 21, 2013, pp. 20831-20836.

"Spin lifetime measurements in GaAsBi thin films," with B. Pursley, et al., *Applied Physics Letters*, 102, 2013, p. 022420.

"Time-resolved two-pulse excitation of quantum dots coupled to a photonic crystal cavity in the Purcell regime," with J. Lee, et al., Physical Review Letters, 110, 2013, p. 013602.

"Mapping spin-orbit splitting in strained InGaAs epilayers," with B. M. Norman, et al., *Physical Review B*, 82, 2010, p. 081304(R).

Service – Professor Sih's service record in her department is strong and diverse. She has served on Graduate Fellowship, Graduate Admissions, and faculty search committees, among others. She also organized two major seminar series and played a valuable role in organizing local meetings, including the 2012 Michigan Quantum Summer School and the 2011 International Conference on Luminescence.

External Reviewers:

Reviewer (A)

"The impact of Vanessa's work to date has been nothing short of spectacular. … Vanessa has demonstrated remarkable fortitude in pursuing difficult experiments and breaking new ground on both the theoretical and experimental fronts."

Reviewer (B)

"The research funding of Prof. Sih is also nothing short of outstanding. …I would say that her professional achievements – and especially her progress since [s]he joined the University of Michigan – are outstanding. …I can say with conviction that Prof. Sih's track record is fully commensurate with that of an Associate Professor. …this record would qualify her for that rank in my own Department…"

Reviewer (C)

"…['Mapping spin-orbit splitting in strained InGaAs epilayers'] is universally recognized in the field as led by Prof. Sih, and now provides an important test… …Prof. Sih has positioned herself exceptionally well…her contributions are clearly identifiable, and it is readily apparent that her interaction and collaboration is also enhancing the reputation of U. Michigan…"

Reviewer (D)

"…her accomplishments are commensurate with your high standards for promotion[.] …she is clearly highly capable from a technical point of view, and she has developed a number of creative and promising new capabilities in her Michigan lab. I believe that she has superior promise… In my opinion [s]he would be a strong candidate if she was being considered for tenure at [my institution]…and would certainly have my support."

Reviewer (E)

"…Prof. Sih appears to be on a strong trajectory… She has done remarkably well as an assistant professor in attracting funding from a variety of sources. She has had good productivity since coming to Michigan… She is setting herself up well for the future by exploring new materials systems and developing new fabrication techniques that will enable her to perform research not being pursued by other groups… She has formed healthy collaborations both at Michigan and with external scientists. Her case for tenure appears very strong to me."

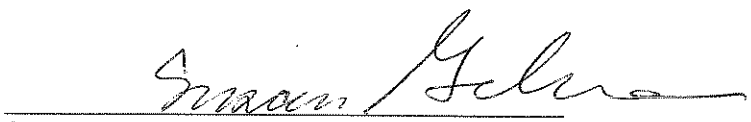
Reviewer (F)

"…Professor Sih has developed a strong, independent research program… She has clearly established several productive collaborations…and has demonstrated the ability to develop innovative experimental probes to address fundamental problems in nanoscience. …I am confident that she will continue making important and competitive scientific contributions."

Reviewer (G)
"Dr. Sih's collaborations are remarkable first in the consistency with her goals and second in the range of experts with whom she work[ed]. …Sih's research program in Michigan points [to the] effectiveness pf [sic] her intellectual leadership and soundness of her research direction. … I would recommend her promotion with no reservation."

Reviewer (H)
"She is well known among the spintronics research community as a rising star within this field and with important contributions in several of its subfields. …she is considered among the best of her generation in our field. … She continues publishing high quality impactful work… Her success is also mirrored by her excellent external funding portfolio. … In my department she would be an excellent candidate for promotion and given her record it would be the type of tenure package that will require very little debate within the different committees."

Summary of Recommendation:
Professor Sih has shown the highest intellectual quality, productivity, and leadership in creating and disseminating knowledge in physics. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Assistant Professor Vanessa Sih be promoted to the rank of associate professor of physics, with tenure, College of Literature, Science, and the Arts.



Susan A. Gelman
Heinz Werner Distinguished University Professor,
Professor of Psychology and Interim Dean,
College of Literature, Science, and the Arts

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