February 19, 2020

To: Oliver O'Reilly, Chair, Berkeley Division of the Academic Senate

From: Montgomery Slatkin, Chair, Faculty Research Lecture Committee

Re: Nominations of Martin Meyerson Faculty Research Lecturers for 2021

The Faculty Research Lecture Committee met on February 18, 2020, to consider nominations from many disciplines at the University. Our charge was to find two distinguished scholars whose research has opened up new fields or made distinctive and original contributions to existing fields. We looked as well for candidates who are nationally and internationally recognized, who represent research that crosses the disciplines at Berkeley, and who have established our reputation for excellence throughout the world. In addition, we considered the ability of candidates to present lively lectures to a broad audience.

The committee unanimously recommends that the 2021 Martin Meyerson Faculty Research Lectures be delivered by Professor K. Birgitta Whaley of the Department of Chemistry and Professor Franklin Zimring of the Berkeley Law School and of the Jurisprudence and Social Policy Program.

K. Birgitta Whaley

Over the past two decades, Whaley has moved into a position of prominence within the area of quantum chemistry as this pertains to the newly emergent field of quantum biology and the developing field of quantum computing. These areas are not independent of one another, since the properties that emerge from studies of quantum biology interface with principles of design for quantum computers. While recently serving as Vice Chancellor for Research, and cognizant of the possibilities of this cutting-edge area of research on campus, Prof. Paul Alivisatos organized a series of seminars and panel discussions on quantum science at UCB. Whaley was active in this regard and is currently serving as a member of the Executive Board for Coherent Quantum Science on campus.

At the heart of understanding the role of quantum effects is the issue of the generation of relatively long lived coherent states. Whaley has been a leader in the theoretical analyses of this phenomenon and how it can play a role under the "messy" room temperature conditions of photosynthesis and in the photo-electronic behavior of new materials. She has also contributed important insights into the nature of helium superfluidity at low temperatures. One of her strengths is her ability to interface productively with experimentalists and several of her key publications illustrate the success of such endeavors: these include her highly cited work on quantum entanglement in the pigment-protein light harvesting complex (FMO), and a recent study in which her theory of non-commuting observables has been tested experimentally by Prof. Irfan Siddiqi in Physics.

Her scientific advances and service to the profession speak for themselves. In addition, Whaley is an outstanding spokesperson for quantum chemistry at all levels. We feel certain she will give a lecture

that will both clarify the concepts underlying this area of research and highlight the exciting new directions in this timely, yet often seemingly “otherworldly,” area of scholarship.

Franklin Zimring

Zimring's scholarship addresses some of the most important issues in criminology and criminal justice. It illuminates how our criminal justice system actually operates and proposes feasible reforms to improve its operation: Much of his scholarship focuses on the problems that result from handling within the apparatus criminal justice system matters that could be better addressed through other mechanisms available to the state, including criminal behavior by juveniles, substance abuse, and deviant behavior more generally. In all of his scholarship Zimring is a voice of reason. He insists that policy be fact-based. His scholarship also illuminates the social, political, and institutional dynamics that have shaped our criminal justice system.

Two or Zimring’s books are especially prominent and timely. *When Police Kill* (2017) is an authoritative empirical study of killings by police in the United States today. The book focuses on the over 1100 reported killings in 2015 (a number that is twice official estimates) The book assesses the causes of police killings. One cause is obvious and unchangeable: the ubiquity of guns in the U.S. But some causes are less obvious and are possible to change. Teach police they do not need to kill when threatened by a knife. That would save several hundred lives a year. Make it a policy to have two officers respond to domestic disturbances. The killings in the domestic-disturbance cluster of cases are strongly associated with a single officer responding to a call. Teach police officers not to respond to a perceived threat with a fusillade of bullets. And the book has practical recommendations on how and why to work with police chiefs to implement these changes. *The City that Became Safe* (2012) examines the drop in the rate of violent crimes in New York City between 1990 and 2009. What is remarkable about the New York experience is the magnitude of the decrease in the rate of violent crime, which was almost twice that in other cities in the U.S. during the period. The drop cannot be explained by demographic changes, Zimring explains. Nor can it be explained by a decrease in the number of fatherless youths or a decrease in the availability of illegal drugs, for these conditions did not change during the period. Nor can it be explained by increased incarceration and incapacitation. The rate of incarceration in New York increased during the period but at a lower rate than in other cities. Nor, Zimring argues, does it appear to be explained by the much ballyhooed "zero tolerance," "broken window," and "stop-and-frisk" policing policies, once one looks closely at the facts. Zimring concludes that the decline can be attributed to small changes, including increases in police on the street, parole officers, after-school programs; shutting down "open air" drug markets; and the collection and analysis of data on criminal activity that made it possible to identify "hot spots" where the presence of police on the street could prevent crime.

Zimring's scholarship exemplifies the type of scholarship one would hope and expect to be produced at Berkeley. He is known to be an effective public speaker and we anticipate he will give an excellent Faculty Research Lecture.