SUMMARY

University Distinguished Professor

April 1, 2019

The University Distinguished Professorship (UDP) is Virginia Tech's pre-eminent faculty rank bestowed by the Board of Visitors upon members of the university faculty whose scholarly attainments have attracted national and/or international recognition. An extensive nomination and vetting process involves department and college honorifics committees, a specially convened university committee, the executive vice president and provost, and the president.

Following the established protocol, and consistent with the recommendations received from a university committee and the executive vice president and provost, President Sands recommends the appointment of Drs. Romesh Batra, T. Daniel Crawford, and A. Roger Ekirch as University Distinguished Professors. All three faculty members are truly exceptional scholars, making exceptional contributions in their fields to the betterment of people and communities around the globe. Their achievements and contributions have garnered national and international recognition. The appointment to University Distinguished Professor also carries with it an annual operating account for use by each professor.

UNIVERSITY DISTINGUISHED PROFESSOR

Dr. Romesh Batra is currently the Clifton C. Garvin Professor in the Department of Biomedical Engineering and Mechanics in the College of Engineering. He is also a fellow of the American Society of Engineering Education, American Academy of Mechanics, Society of Engineering Science, American Society of Mechanical Engineers, and the United States Association of Computational Mechanics.

Appointed to the faculty at Virginia Tech in 1994, Dr. Batra is nationally and internationally recognized as a foremost leader in solid mechanics research, particularly legendary in the research of material failure under extreme loadings, composites, nano-reinforcements for increasing structures' failure load, micro-electro-mechanical systems as sensors, and computational methods and algorithms. His physics-based mathematical and computational models have greatly advanced research in combat and space materials. His analytical and computational research has been funded continuously by the U. S. Department of Defense since 1983, and his share of funding at Virginia Tech exceeds $10.4M, involving collaboration across many university departments.

Throughout his academic career, he has mentored a diverse group of 38 Ph.D. students (35 as sole advisor), 20 master of science students, 28 undergraduate seniors, and 66 postdoctoral fellows. For his exceptional mentoring, he earned the 2016 VT Alumni Award for Excellence in Graduate Student Advising, complementing his 2010 SCHEV Outstanding Faculty and 2011 Virginia Outstanding Scientist Awards among, a number of other awards received for teaching and advising. Over his career, he has revamped course content for courses assigned to him and developed new coursework. Notes from his courses have resulted in a textbook already published and another in process for publication. He is evaluated highly by his students and perceived as a highly sought-after and demanding but patient, respectful, and respected instructor.

Dr. Batra has 434 peer-reviewed journal articles and a textbook, and his work has been cited over 17,000 times as measured by Google Scholar. Dr. Batra received the College of Engineering Alumni Award for Outreach Excellence for furthering the College of Engineering's global presence through events, collaboration on research and instruction, establishing academic programs, and a consistent devotion to inclusivity and diversity.

University and professional service spans the entirety of Dr. Batra's career at Virginia Tech; he has served as either a member or in a leadership position for many boards and committees, including leading and organizing two large conferences which brought extensive visibility to Virginia Tech, enabling Virginia Tech researchers and students to interact with managers of research programs and the world's leading scientists, and contributed greatly to the economy of the region. He has also represented the university at international universities during his five years as graduate program director.

Dr. Batra has impacted the university, industry, country, and world with his outstanding scholarship and research, mentoring and advising, teaching, and service. He is a model leader in his profession. In addition to shaping the way the Department of Defense protects individuals, structures, and vehicles in combat, his research and knowledge have

resulted in many other practical contributions to society and the world and has shaped many students who have pursued fulfilling careers in universities across the globe and in industry.

RECOMMENDATION:

That Dr. Romesh Batra be appointed University Distinguished Professor effective April 10, 2019.

April 1, 2019

UNIVERSITY DISTINGUISHED PROFESSOR

Dr. T. Daniel Crawford is currently the Ethyl Corporation Chaired Professor of Chemistry in the Department of Chemistry within the College of Science. He also serves as the director of the Molecular Sciences Software Institute (MolSSI) at Virginia Tech.

Appointed to the faculty at Virginia Tech in 2000, Dr. Crawford is nationally and internationally recognized as a foremost leader in the fields of theoretical and computational chemistry, making exceptional contributions through teaching, research, and technological development.

Dr. Crawford's research has earned him a number of very high profile awards and accolades, including the 2010 Paul A. M. Dirac Medal from the World Association of Theoretical and Quantum Chemists, recognizing "outstanding computational chemists in the world under the age of 40"; the Wiley-International Journal of Quantum Chemistry Young Investigator Award; and the National Science Foundation CAREER Award. He received the Ethyl Corporation Chaired Professorship to maintain and continue building the vitality and quality of the Department of Chemistry. At the beginning of his Virginia Tech career, he was awarded a New Faculty Award from the Camille and Henry Dreyfus Foundation which he followed with numerous other awards including the Research Innovation Award from the Research Corporation for Science Advancement, the Virginia Tech Alumni Award for Excellence in Research, and the Cottrell Scholar Award. Other distinctions include recognition as Peter C. Reilly Lecturer at the University of Notre Dame, a fellowship in the American Chemical Society, the John C. Schug Faculty Research Award, and nomination for the SCHEV Rising Star Outstanding Faculty Award. His efforts have altered the culture and performance of the Department of Chemistry for the better, growing from a department with no research-active theoretical chemists to now being highly recognized for contributions in this area and housing a $19.4M NSF-funded center.

In the domain of teaching, Dr. Crawford is continually rated extremely highly by his students. He has won the Department of Chemistry teaching award twice and has been awarded the university-wide Certificate of Teaching Excellence. In additional to traditional classroom teaching, he developed an online series of self-guided programming exercises, which have been adopted around the world by research groups and have trained hundreds of students. He has also launched "Software Summer Schools" for undergraduate and graduate students.

Dr. Crawford has been an invited speaker for nearly 190 lectures in 24 countries and has more than 125 peer-reviewed publications, and his work has been cited 6,432 times as measured by Google Scholar.

As a globally recognized leader in his field, Dr. Crawford considers outreach and international collaboration essential to every aspect of his work. The MolSSI emphasizes international interactions and activities, and in support of this he has organized workshops in Italy, Sweden, and Spain. A summer program within his group provides research opportunities to undergraduate students from Indian universities through internships,

stipends, and travel expenses. This program has led all of the participants to pursue graduate work. He has also been a visiting professor in Norway. To further demonstrate his international renown, he is invited as the lead instructor for coupled cluster theory at the 2019 European Summer School on Quantum Chemistry in Sicily, the only speaker from the United States to be invited, where he will also contribute a book chapter.

Dr. Crawford is continually involved in service by chairing or participating in many committees at the departmental, college, and university levels in the Virginia Tech community, as well as serving his professional community beyond the university in formal roles and in peer reviews, Ph.D. student mentoring, and colleague professional development.

Through all facets of his work, including teaching, research, outreach, and service, Dr. Crawford has demonstrated that he is an outstanding scholar with extensive impact, an excellent teacher, an outstanding mentor of graduate students, a dynamic force in obtaining external funding to support his research, a model leader in growing a university center, and a true leader in his profession. He has made outstanding academic contributions, shaping his department, the university, and the field of chemistry.

RECOMMENDATION:

That Dr. T. Daniel Crawford be appointed University Distinguished Professor effective April 10, 2019.

April 1, 2019

UNIVERSITY DISTINGUISHED PROFESSOR

Dr. A. Roger Ekirch is currently a professor in the History Department in the College of Liberal Arts and Human Sciences (CLAHS).

Appointed in 1977, Dr. Ekirch has garnered significant awards and recognition including recognition of his teaching, best article prizes from scholarly societies, college and alumni association awards for research excellence, and a history scholar award from the Virginia Social Science Association. He is also an award-winning author of five books, and his writing has been translated into eight languages while earning international renown and numerous honors.

Dr. Ekirch has the reputation of being a formidable instructor with enthusiasm for the classroom and concern for his students. Evaluations of his teaching are very strong, and he has participated in four summers of a course of study to encourage minority students to apply to doctoral programs in history. He has also directed a National Endowment for the Humanities seminar for teachers on immigration issues in education. His teaching has earned him the Faculty Excellence Award presented by the Department of History graduate students, acknowledgement as “Favorite Faculty” twice, and an honor by the Virginia Tech Women’s Volleyball Team at their “Professor Appreciation Night.” He has advised numerous graduate students at both the masters and doctoral levels.

His scholarship on the history of sleep has upended established notions of what constitutes normal sleep; his research has elicited profound changes in medical treatment of sleep disorders and medical illnesses bearing relationship to sleep. He has received four fellowships form the National Endowment for the Humanities and was the second Virginia Tech professor ever to win a Guggenheim Fellowship, awarded for “unusually distinguished achievement in the past and exceptional promise for future accomplishment” in science, humanities, and the arts. He has also received the Virginia Tech Alumni Award for Research Excellence, the Virginia Social Science Association’s Scholar Award in History. He became the first faculty member in his college to earn a second Award for Excellence in Research and Creative Scholarship. His scholarship is referenced 93 times in scientific journals, and 15 books relating to sleep, dreams, and sleep disorders. He has delivered four keynote addresses to sleep conferences, been invited to speak to medical audiences in the United States, and to sleep societies and conferences in Asia. His 2017 book, *American Sanctuary: Mutiny, Martyrdom, and American Identity in the Age of Revolution,* was designated the History Book Club’s “main selection” for February and led to speaking engagements as well.

Dr. Ekirch is active in several historical associations, including the American Historical Association, and has been a regular reviewer of grant applications for funding agencies as well as a manuscript referee for numerous publishers. He serves on the editorial board of *Sleep Health: The Journal of the National Sleep Foundation.* His college and university service has been devoted to serving on committees and groups designated to recognize and advance the research of faculty and students. He has served as a judge for the annual research symposium of the Graduate Student Association, several undergraduate scholarship competitions, the awards committee of the College of Liberal Arts and Human

Sciences, and the Alumni Award for Research Excellence committee. He has been a member of nearly every standing committee in the Department of History, search committees, and promotion and tenure committees. Notably, he was engaged with the Undergraduate Curriculum Committee when it was deeply invested in revamping the structure of the department's undergraduate course offerings, where his contribution was remarkable.

His accomplishments illustrate the power of transdisciplinary scholarship for advancing both basic research and its translational implications across a variety of fields. His research and writing have achieved national and international recognition, making a dramatic impact within his profession, the medical community, and the public as a whole.

RECOMMENDATION:

That Dr. Roger Ekirch be appointed University Distinguished Professor effective April 10, 2019.

April 1, 2019