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HD.20.06
December 9, 2019

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN SENATE
COMMITTEE ON HONORARY DEGREES
(Final; Action)

HD.20.06 Nominations for Honorary Degree Awards

The Senate Committee on Honorary Degrees is pleased to nominate the following individuals for an honorary degree award to be conferred at the May 2020 Commencement exercises:

- James Delany
- Mario Molina
- Rahul Pandharipande

Information relative to the background and achievements of these nominees is attached. Based on the criteria approved by the Senate, the Committee has selected these individuals for Senate consideration.

The Committee wishes to express its sincere appreciation to all who participated in the process, particularly those who spent considerable amounts of time and effort in preparing documentation for these nominees.

COMMITTEE ON HONORARY DEGREES
Matthew Wheeler, Chair
Fred Johnson Asiimwe
Larry Fahnestock
Ane Icardo Isasa
Prasanta Kalita
Susan Koerner
Rolando Romero

James E. Delany
Commissioner
Big Ten Conference

EDUCATION:

B.S., Political Science, University of North Carolina, 1970
J.D., Law, University of North Carolina, 1973

Nominated by: Matthew B. Wheeler, Professor and former Big Ten FAR, Department of Animal Sciences, University of Illinois at Urbana-Champaign
Jeffrey R. Brown, Dean, Gies College of Business, University of Illinois at Urbana-Champaign
Josh H. Whitman, Director, Division of Intercollegiate Athletics

BASIS FOR NOMINATION:

James Delany has been a tireless advocate for students especially student athletes. He has increased the opportunities for many students, including many "first in the family", to attend college. His work to increase the participation by women in sports and his long-standing and unwavering support for gender equity through Title IX has increased scholarship and participation opportunities for women in Big Ten institutions. This was accomplished by the Delaney initiated Gender Equity Action Plan in 1992. The Big Ten leads all conferences with more than 4,600 female students playing sports. Big Ten institutions have claimed more than 120 national titles in women's sports.

Jim Delany has been a tireless advocate for the welfare of student athletes by initiating 4-year guaranteed scholarships at Big Ten institutions well before the national initiative by the NCAA. He also championed providing three meals per day for all student athletes not just those on scholarship. This program has provided nutritious meals to countless students at our Big Ten Institutions.

Delany has been a tireless advocate for gender equity and racial equality. He has led the Big Ten conference's diversity and inclusion efforts where they have become a point of pride — and results — for the league's membership and particularly for Delany, who has directed the Big Ten since 1989. *"Having a commitment to diversity comes from people's hearts, comes from policies and initiatives, and it comes from the strength and character of the people pursuing change," Delany said. "It requires a mindset."* For those who have come through the conference's Chicago office, they cite the league's pipeline of diverse talent that's been created by a series of mentoring relationships. One relationship begot another and a pattern of diversity evolved.

Finally, Delany has spear-headed a number of academic initiatives in Big Ten institutions including the Big Ten-Ivy League Traumatic Brain Injury (TBI) Research Collaboration to study TBI not only in athletes, but in soldiers and others with traumatic head injuries. This has resulted in research funding support by the NIH, NFL, and Department of Defense. Delany has also been instrumental in organizing, coordinating, and financially supporting the Big Ten Cancer Centers at the various Big Ten Institutions and supported by the Big Ten Academic Alliance (formerly the CIC).

In summary, it is altogether fitting that the University of Illinois award the honorary Doctor of Philosophy degree to James E. Delany in recognition of a lifetime commitment to higher education; his devotion to the academic, athletic, and personal excellence of the

student athlete; and his many contributions to college sports and the hundreds of thousands of students who participate in them.

EXCERPT FROM THE NOMINATION LETTER:

"Commissioner Delany is only the Big Ten's fifth commissioner since its founding in 1896. He has led the Big Ten Conference, from 1989 until his retirement in 2019. The Big Ten has grown to 14 member institutions during Delany's tenure, including the additions of Penn State in 1991, Nebraska in 2011 and Maryland and Rutgers in 2014. With the conference's footprint now stretching from the Colorado border to the Atlantic Ocean and more than five million alumni across the country, Delany continues to work toward strengthening traditional relationships while building a presence in a new region.

Under Delany, the Big Ten has been a champion for Title IX. The conference was the first to voluntarily adopt participation goals for female students competing in intercollegiate athletics as the Big Ten initiated the Gender Equity Action Plan in 1992. The Big Ten leads all conferences with more than 4,600 female students playing sports and features more than 870 televised or streamed women's athletic events.

Delany and the Big Ten have been active in the community, creating the school outreach program SCORE (Success Comes Out of Reading Everyday). For more than 25 years, the conference has partnered with Chicago elementary school to improve reading performance. The Big Ten has also established numerous community programs surrounding its men's and women's basketball tournaments and football championship game. Delany has been a tireless advocate for gender equity and racial equity."

HONORS/AWARDS (NOT INCLUSIVE):

2012	UNC Distinguished Alumni Award
2014	Torch of Liberty Award
2016	John W. Bunn Lifetime Achievement Award
2018	*SportsBusiness Journal's* Twenty for 20

EXCERPTS FROM THE LETTERS OF RECOMMENDATION:

Robert A. Bowlsby, II, Commissioner, Big 12 Conference

"Mr. Delany and I have been colleagues and friends for nearly 40 years. During the period of our association, Mr. Delany has distinguished himself as an educator, a mentor, and leader while consistently and without exception conducting himself with the utmost in integrity."

Ron Guenther, Former Athletic Director, University of Illinois at Urbana-Champaign

"In the 1990's, under Mr. Delany's oversight, the Conference voluntarily implemented a gender equity action plan that established a minimum target of 60% male—40% female participation in athletics. No other conference had such a program at the time. Over three decades it has resulted in a significant increase in opportunities for thousands of women attending B1G institutions."

Keith A. Marshall, Executive Director, Big Ten Academic Alliance

"Commissioner Delany's most significant contribution is through his support of the Big Ten-Ivy League Traumatic Brain Injury Research Collaboration. It was Commissioner Delany's vision, concern of the welfare of student-athletes, and understanding of the power of collaboration that led to this partnership with the Ivy League. The TBI Research Collaboration's power is that it brings together a

unique collection of individuals – researchers, clinicians, athletic trainers, team doctors, coaches, etc. – across two of the most significant conferences in the country to address a pressing societal issue. This multidisciplinary and multi-institutional approach is rapidly leading to the largest, most comprehensive database of TBI in college sport in the country. I am not aware of any similar academic/athletic research initiative at any other athletic conference in the country and it is not hyperbole to say that this critical initiative would not exist with Commissioner Delany's vision and leadership. Through the Big Ten-Ivy League Traumatic Brain Injury Research Collaboration, Commissioner Delany will be impacting the lives of student-athletes and changing the very fabric of college sports for decades to come.

More importantly, no other commissioner in the country has been as supportive of the academic collaboration of his/her member institutions. Through his unwavering support of the Big Ten Academic Alliance and his vision to bring together an unprecedented collaboration of academic and athletics across two conferences to better understand traumatic brain injuries, Commissioner Delany has had a tremendous and lasting impact outside the normal sphere of a commissioner's purview."

Stanley O. Ikenberry, President and Professor Emeritus, University of Illinois

"As the longest serving Commissioner of the Big Ten Conference he has led the quest to offer high quality athletic programs giving life-defining opportunities for students while at the same time modeling the academic values and integrity crucial to a great university."

Mario J. Molina
Professor
Department of Chemistry and Biochemistry
Scripps Institution of Oceanography
University of California, San Diego

EDUCATION:

Chemical Engineer Degree, Universidad Nacional Autónoma de México, 1965
Postgraduate, University of Freiburg, West Germany, 1967
Ph.D., Physical Chemistry, University of California, Berkeley, 1972

Nominated by: Elvira de Mejia, Professor and Director, Division of Nutritional Sciences, University of Illinois at Urbana-Champaign
Donald J. Wuebbles, The Harry E Preble Professor of Atmospheric Sciences, Department of Atmospheric Sciences, University of Illinois at Urbana-Champaign
Alex Winter-Nelson, Associate Dean, College of ACES Office of International Programs, University of Illinois at Urbana-Champaign

BASIS FOR NOMINATION:

Dr. Mario Molina is a pioneer and one of the main scientists in the world dedicated to atmospheric chemistry. Together with Frank Sherwood Rowland, he co-authored the 1974 original article predicting the depletion of the ozone layer as a direct consequence of the missions of certain industrial gases, chlorofluorocarbons (CFCs), earning them the 1995 Nobel Prize in Chemistry, which made Molina the first Mexican-born scientist to receive a Nobel Prize in Chemistry. His research and publications on the subject lead to the United Nations Montreal Protocol, the first international treaty that has faced with effectiveness an environmental problem of global scale and anthropogenic origin. Professor Molina and his research team published a series of articles between 1976 and 1986 that identified the chemical properties of compounds that play an essential role in the breakdown of the stratospheric ozone layer. Subsequently, they demonstrated in a laboratory the existence of a new class of chemical reactions that occur in the surface of ice particles including those that are present in the atmosphere. They also proposed and demonstrated in the lab a new sequence of catalystic reactions that explain a major part of the destruction of the ozone in the polar stratosphere.

Molina is a member of the National Academy of Sciences and the Institute of Medicine in the United States, and for eight years he was one of the 21 scientists that served on President Barack Obama's Committee of Advisors on Science and Technology (PCAST); he also previously served on President Bill Clinton's PCAST. He is a distinguished member of the Vatican's Pontifical Academy of Sciences, the National College of Mexico, Mexican Academy of Science, and the Mexican Academy of Engineering, among others.

EXCERPT FROM THE NOMINATION LETTER:

Dr. Molina obtained a chemical engineering degree from the Autonomous University of Mexico (UNAM) in 1965. He then conducted postgraduate training at the University of Freiburg in Germany in 1967. He conducted his formal graduate studies in the U.S. and received a Ph.D. degree in Physical Chemistry from the University of California-Berkeley in 1972. Soon after joining the University of California Irvine, Dr. Molina (with Professor Sherwood Rowland) determined that the chlorine atoms produced from the decomposition of industrially-produced chlorofluorocarbons (CFCs), being used as refrigerants and for other uses, would act as a catalyst for the destruction of stratospheric ozone. This

phenomenon could start a seriously damaging chain reaction to reduce the ozone layer, with resulting concerns about increased ultraviolet radiation effects on human health. They published their findings in 1974 in the Journal Nature. Because of their work, new regulations have been established in several countries, following the Montreal Protocol, to protect the ozone layer by regulating the use of CFCs.

HONORS/AWARDS (NOT INCLUSIVE):

1987	American Chemical Society Esselen Award
1989	NASA Medal for Exceptional Scientific Achievement
1989	United Nations Environment Program Global 500 Award
1993-present	Member, U.S. National Academy of Sciences
1995	Nobel Prize in Chemistry
1995	United Nations Environment Program Ozone Award
1996-present	Member, Institute of Medicine
1998	American Physical Society Fellow
2000-present	Member, Pontifical Academy of Sciences
2002-present	Fellow of the American Association for the Advancement of Science
2002	Environment Award, Heinz Family Foundation
2013	Presidential Medal of Freedom
2014	United Nations Champions of the Earth Award
2016	Member, National Academy of Sciences of the Argentinian Republic
2018	The Climate and Clean Air coalition Award, CA

EXCERPTS FROM THE LETTERS OF RECOMMENDATION:

Antonio J. Busalacchi, President, University Corporation for Atmospheric Research

"Simply put, Mario Molina is a pioneer and leader in atmospheric chemistry and also a leader in climate science. He received the Nobel Prize in Chemistry in 1995 for his pioneering studies of the effects of chlorofluorocarbons on stratospheric ozone. This work helped lead to the Montreal Protocol to protect the stratospheric ozone layer, the first major worldwide agreement to protect the environment."

Evan H. DeLucia, G. William Arends Professor of Integrative Biology, Baum Family Director, Institute for Sustainability, Energy, and Environment, University of Illinois at Urbana-Champaign

"Not to be content only conducting laboratory research, Professor Molina went on to found the Molina Center for Energy and the Environment, a not-for-profit dedicated to bringing together all voices with the aim of solving wicked environmental challenges and to train the next generation of environmental leaders."

J. Michael Kuperberg, Executive Director, U.S. Global Change Research Program

"In my area, Dr. Molina's contributions have been important. He chaired the American Association for the Advancement of Science Climate Science Panel that developed the "What We Know Initiative." He has also been Co-chair of the Steering Committee of the United Nations Environment Program (UNEP) Assessment of Efficient and Climate Friendly Cooling that is intended to advance the Kigali Amendment to phase out the use of HFCs, strong greenhouse gases widely used as refrigerants.

Dr. Molina has a well-deserve reputation for high-impact science, but I believe that his greatest strength comes from his desire to make a difference by helping society understand and respond to the environmental challenges that he studies."

Rahul Pandharipande
Professor of Mathematics
Swiss Federal Institute of Technology Zurich (ETH)

EDUCATION:

A.B., Mathematics, Princeton University, 1990, *summa cum laude*
Ph.D., Mathematics, Harvard University, 1994

Nominated by: Jeremy Tyson, Professor and Chair, Department of Mathematics, University of Illinois at Urbana-Champaign
Matthias Grosse Perdekamp, Professor and Head, Department of Physics, University of Illinois at Urbana-Champaign

BASIS FOR NOMINATION:

Rahul Pandharipande is an eminently distinguished and prolific mathematician who has been the driving force in the central field of Modern Enumerative Geometry for more than 20 years, a field which he largely created. He has garnered many prestigious awards for his research, which continues to have high impact in theoretical physics as well. His influence extends far beyond his own exceptional work, as his former Ph.D. students are going on to remarkable careers of their own. As value added, he grew up in Urbana and has deep ties to our campus.

EXCERPT FROM THE NOMINATION LETTER:

"Professor Pandharipande was one of only 21 mathematicians worldwide invited to give a plenary address at the most recent meeting of the International Congress of Mathematicians, held once every four years. The plenary addresses are for mathematicians who are making the most significant contributions to all of mathematics, irrespective of subfield. The Compositio Prize is awarded to exactly one research paper every 3 years which is published in the top tier Journal Compositio Mathematicae. Professor Pandharipande received the award for a paper connecting modern enumerative invariants to theoretical physics. The Clay Research Award is awarded annually to 1-3 mathematicians worldwide. When Professor Pandharipande won the award in 2013, he was the only recipient. This was in fact one of only two years when there was a single recipient of the Clay Research Award. The only other time was in 1999 when Andrew Wiles garnered the award following his celebrated proof of Fermat's Last Theorem.

The field of Enumerative Geometry was reborn in the 1990s following an influx of news ideas from theoretical physics, with Pandharipande at the helm in laying out the structure of the field and developing the formalism which is now standard. The field is a subfield of the larger field of algebraic geometry, the study of the solutions to systems of polynomial equations.

Rather than focus on the solutions themselves, Pandharipande's focus is on understanding the structure of the solutions of entire families of systems of equations. He has repeatedly extracted hidden structures from this approach, and applied these insights to repeatedly solve major unsolved problems in the field.

While Professor Pandharipande's research is in mathematics, he has frequently drawn on inspiration and ideas from theoretical physics over the course of the last two decades. He has found proofs of deep structures expected from mathematical physics. More generally, his work is uniformly of the highest caliber. He has published more than 100 papers, at least nine of which are published in the elite Mathematics journals *Annals of Mathematics* and *Inventiones Mathematicae*."

HONORS/AWARDS (NOT INCLUSIVE):

2000-2005	David and Lucille Packard Foundation Fellowship
2010	Compositio Prize
2013	Clay Research Prize
2013	Infosys Prize for Mathematics
2018	Invited speaker (plenary), International Congress of Mathematicians (ICM)
2015-2019	Einstein Visiting Fellow (Berlin)

EXCERPTS FROM THE LETTERS OF RECOMMENDATION:

János Kollár, Donner Professor of Science and Professor of Mathematics, Department of Mathematics, Princeton University

"Pandharipande is one of the leading mathematicians worldwide. His main research area is algebraic geometry, especially its enumerative and quantum cohomology aspects. Pandharipande made groundbreaking contributions both to foundational questions of quantum cohomology and to its applications. The only person comparable to him in achievements and stature is Andrei Okounkov."

William Fulton, Oscar Zariski Distinguished University Professor, Department of Mathematics, University of Michigan

"I have admired Pandharipande's work since I saw his remarkable PhD thesis – one of a handful of the strongest theses I have seen in my career of nearly 60 years.

Among the algebraic geometers I have no hesitation in saying that Pandharipande has done the most. He was instrumental in putting solid mathematical foundations under the theory when it began in the 1990s. Since then he has made dozens of important contributions – far more, and more important, than anyone else. These have been published in our finest journals. His productivity it simply awesome.

Pandharipande is a mathematician of great power, seeming able to solve notoriously difficult problems with ease."

Davesh Maulik, Professor Mathematics, Department of Mathematics, MIT

"Pandharipande is one of the great mathematicians of this century, a true giant in the subject of algebraic geometry, who has over the years developed his own field of inquiry, generating a huge amount of beautiful mathematics that several others have devoted their careers to understanding.

In addition to this, Pandharipande has been an amazing mentor to the next generation of algebraic geometers. Faculty at institutions all over the world have been trained by him, either as graduate students or as postdoctoral students, including faculty at Berkeley, MIT, Michigan, Utah, Caltech, etc."