

VICTOR DZAU:

This is so exciting. I feel like I'm at Broadway waiting for a show to begin. So, good afternoon. It's wonderful to see all of you here. Now, we wanna make sure that all the inductees are all seated. Are we OK? All set? Great. Well, so glad to see all of you here. I'm Victor Dzau, the president of the National Academy of Medicine. And in just a few moments, we'll formally induct, we'll be formally inducting all of you. That is, the members to National Academy of Medicine. I would say, how do I describe this class? The very, very, very best. (LAUGHTER) You would agree, right? (APPLAUSE) Now, I said that to last year's class too. (LAUGHTER) But every class is the very best because we have the very best members. As you know, our members are highly distinguished. They are chosen because of their achievements, because of excellence, and they represent the field of health and biomedical sciences. From basic translational clinical research to great clinicians, to experts and leaders in global health, population health, public health, the health care sector.

To members who, in fact, are fields like social medicine and behavioral sciences, law, economy, you name it. You are the very best. Just to show how great you are. As many of you know, this year in the inductee class, there are two Nobel laureates. (APPLAUSE) Katalin, why don't you just stand up? Well, every year when I give an orientation to the members and to all of you, I said, you know, we have Nobel laureates. And it's true that every year at this time, one of our members or two or three will have received a Nobel Prize. What's different about this time is, we forecasted this last year. We said, Katalin and Drew Weissman, we'll give you a membership and then of course, Nobel Committee said, oh yeah, so let's make them Nobel Prize. (APPLAUSE) But truly, this day is for you. I mean, I think beyond the celebration of a wonderful member who got Nobel Prize, we're celebrating all of you. Because every one of you are making huge differences in the health and medicine field. But huge differences to the nation and to the world.

And we need to celebrate all of you and all of you who's done so much. But I do want to begin by thanking many people beyond the class, which is families, friends and loved ones. So, if we may have friends, family and loved ones stand up, let's give you a round of applause. (APPLAUSE) I also like to acknowledge the sponsors, the nominators of our new members. Some may be in this room tonight, and I do want them to stand up if they're present, so please stand up. (APPLAUSE) So, it is my privilege to introduce each of the extraordinary members of the class of 2022 and to present them with a certificate of membership. The NAM officers will assist me on stage, and that will be the home secretary, Elena Fuentes Affleck and council vice chair Claire Brindis should come and help me welcome all of you. Unfortunately, Carlos del Rio, who's the international secretary, and Mike McGinnis, the executive officer, can't be with us tonight. So in fact, you will have Elena and Claire to most of the work.

Here in the front of auditorium, class of 22 members, all seated in alphabetical order just like commencement. (LAUGHTER) By the way, I speak to the younger family members of the members. And I say to them, are you proud of your father, mother or your, you know, relatives? So I said, they finally they got graduating too like you. So, also some members are watching online and we welcome you and thank you for being here. And so, you can follow along the ceremony order in new members brochure, which you receive upon entering the auditorium. So, to begin the staff will queue you up, line up in alphabetical order, and you come up to the stage as you recognized and I'll greet you. And we shake hands and you get your membership and get a photograph with me. OK, let's get started. Elena, can you come right up?

ELENA:

Good evening. I am honored to be with you. I'm Elena Fuentes Affleck, home secretary of the National Academy. Welcome to the class of 2022. Congratulations on your election, which is a deep honor and a recognition of your contributions. It's a joy to share this moment with you, your family, your friends, and your colleagues. Let's begin.

SPEAKER:

Opeolu Adeoye for his seminal work on national thrombolysis, treatment rates for stroke and population access to thrombolysis and thrombectomy identified disparities in stroke treatment rates and access to treatment. He led the American Stroke Association's recommendations on establishing stroke systems of care that has had significant health policy impact.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Pedro Luis Alonso for his role as a visionary leader in global health, as director of the WHO Global Malaria Program. He leads policy development and implementation, including recommendation for use of the first malaria vaccine. For establishing key research centers in Mozambique and Barcelona, and for conducting groundbreaking research in malaria prevention.

ELENA:

Dr Alonso is not able to be with us, but we offer him virtual felicidades and welcome. (APPLAUSE)

SPEAKER:

Marcella Alsan, for her scholarly insights on understanding the origins of medical mistrust and the role it plays in understanding health disparities. Her work has shaped policy in addressing disparities through increased health care workforce diversity and improving messaging in reaching historically marginalized and vulnerable populations.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Julie Ann Baldwin, for internationally recognized, pioneering research on community driven HIV Aids and substance use prevention interventions for indigenous youth implemented in school systems and native communities in the US and globally. And creating innovative public health research and training academic enterprises affording new pathways for native and other historically underrepresented scientists.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Mark Bear, for his discovery of fundamental mechanisms by which sensory experience and deprivation modify synapses by increasing or decreasing their strength during the development of the brain. And how these mechanisms contribute to, and can be marshaled to treat developmental brain disorders.

ELENA:

We offer Dr Bear a virtual congratulations and welcome. (APPLAUSE)

SPEAKER:

Seth Franklin Berkley for being a global health leader and vaccine expert. Dr Berkley led efforts to vaccinate over half the world's children, preventing some 15 million deaths during COVID. He co-established COVAX, enabling developing country distribution of more than a billion COVID vaccine doses. He also led a major initiative to develop HIV vaccines.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Craig D Blackstone, for identifying cellular pathogenic mechanisms underlying common forms of hereditary spastic paraplegia. And providing fundamental insight into the basic biology and functions of the endoplasmic reticulum.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Carlos Blanco, for his pioneering work on the development of treatment and preventive interventions for substance use disorders that has shaped national thinking. And guided over \$3 billion in National Institutes of Health supported research on the opioid epidemic. justice involved populations, pain and addiction, cannabis legalization, and vaping.

ELENA:

Felicidades, welcome. (APPLAUSE) (LAUGHTER)

SPEAKER:

Arleen F Brown, for being a pioneer in understanding how community policy, health system, and individual factors contribute to racial, ethnic, and socioeconomic disparities in diabetes, hypertension, cardiovascular disease, and stroke in multi-ethnic communities. Throughout the pandemic, she has applied this expertise to enhance vaccine uptake and improve recovery from COVID 19.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Namandje Bumpus, for a pioneering and seminal work in the fields of drug metabolism and antiviral pharmacology. And for advancing health equity through the translation of fundamental drug metabolism studies to the prediction of drug outcomes in humans.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Martin Burke, for creating a modular molecular synthesis platform with broad applications in health

science and technology, including his pioneering research on molecular prosthetics for cystic fibrosis. And for helping mitigate the spread of COVID 19 with saliva based testing.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Helen Burstin, for her national leadership on the future of health care quality and improvement through a combination of effective leadership, methodological rigor, creativity, and innovation. She has significantly enhanced the nation's ability to measure health and health care quality and disparities, to promote quality and reduce health or health care inequities.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Nicole Calakos, for discoveries in leadership in basal ganglia physiology and its role in disease, including pioneering approaches to study basal ganglia circuitry. Elucidating fundamental concepts for the molecular, cellular and circuit basis of habit and compulsion, and discovering a unifying pathway mechanism for dystonia and subsequent drug development opportunities.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Yvette Calderon, for outstanding contributions incorporating public health and primary care interventions in the emergency department for underserved communities, including HIV, hepatitis C testing, counseling and treatment programs in New York City. Now replicated internationally, partnering EDS, health departments and community organizations. And for substantial efforts to augment diversity and inclusion in our medical workforce.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Peter John Campbell, for being a pioneer in cancer genomics and tumor evolution. He has led a major effort to define the signatures of somatic mutations in many cancer types. Defined patterns of selection operative during cellular transformation, and identify genes involved in specific tumors as they form progress and metastasize.

ELENA:

We offer Dr Campbell a virtual congratulations and welcome. (APPLAUSE)

SPEAKER:

Diarmid Campbell-Lendrum, for global leadership in creating quantitative estimates of the overall health impacts of climate change and building capacity to address climate and health in greater than 30 low and middle income countries. His work informed World Health Assembly resolutions and the first WHO Global Conferences on Health and Climate.

ELENA:

We offer Dr Campbell-Lendrum virtual congratulations and welcome. (APPLAUSE)

SPEAKER:

Christopher Carpenter for his outstanding research on public policies intended to curb risky behaviors, and his seminal work evaluating the clinical and economic effects of LGBTQ related public policies, including same sex marriage.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Ana Mari Cauce, for exemplary and visionary leadership in public higher education administration, innovations in health research, education, and service systems that enhance pathways for women and underrepresented groups. Initiatives to address interconnections between health equity, population, health, climate change, and pioneering behavioral health intervention research on Latinos.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

James Chen, for discovering the DNA sensing enzyme cGAS and its product cGAM, thereby solving the question of how DNA triggers immune responses from the interior of a cell. He also discovered mAbs, which mediates immune defense against RNA viruses. These discoveries greatly advance our understanding of nucleic acid immunity and diseases.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Regina S Cunningham, for leadership in advancing outcome driven improvements in quality, health equity, and clinician well-being through the development of advanced care delivery models and innovative interprofessional roles. Her expertise as a health care executive, researcher, and educator has catalyzed the implementation of innovations nationally and internationally.

ELENA:

Congratulations and welcome. (APPLAUSE)

SPEAKER:

Bart De Strooper for his work in understanding the mechanisms of Alzheimer's disease in an unrelenting search for therapeutic targets that can help patients. He has discovered gamma secretase and shown how Presenilin regulates notch signaling. He has developed a cellular theory and novel humanized disease models to explore polygenetic risk of Alzheimer's disease. We offer Dr De Strooper virtual congratulations and welcome. (APPLAUSE) Deborah Deas for contributing to the extant literature, generating millions in grant funding on adolescents with substance use disorders, and being a national contributor to addressing health disparities through diversifying the physician workforce, especially Black males in medicine. Congratulations and welcome. (APPLAUSE) Jan Alice Marcel Deprest for his landmark translational studies through the Euro Foetus consortium which led to the development of a

percutaneous method for fetoscopic occlusion of the fetal trachea. His work has changed the standard of care worldwide for fetal diseases such as twin to twin transfusion syndrome and congenital diaphragmatic hernia.

Congratulations and welcome. (APPLAUSE) Connie Eaves for profoundly impacting our knowledge of hematopoietic and mammary stem cells in both murine and human systems. Her focus on single cell stem cell analyses is widely regarded as seminal, leading to improved purification and detailed characterization of what makes a stem cell a stem cell. We offer Dr Eave's virtual congratulations and welcome. (APPLAUSE) Marie-Carmelle Ellie for being the first African American woman to chair an academic emergency department in the nation, representing the first scholar at the crossroads of the emergency medicine, critical care and palliative care disciplines to achieve such recognition in North America. Congratulations and welcome. (APPLAUSE) Wafale Fawzi for making outstanding contributions to advancing the science of safety and efficacy of nutritional interventions in the prevention and management of major global health threats, for spurring translation of evidence into policy and programs, and for leading major efforts to train future public health leaders.

Congratulations and welcome. (APPLAUSE) Henri Ford for his charismatic, mission-driven leadership at three institutions transforming the landscape for building diversity, equity, and inclusion into the educational and clinical fabric of medicine. His extraordinary administrative skills catalyzed cultural change, financial turnaround and innovative curricular reform, training the next generation of physicians and physician scientists while promoting health equity. Congratulations and welcome. (APPLAUSE) Elizabeth J Fowler for being a chief architect of the ACA and Medicare Modernization Act, and leading CMS efforts on Medicare payment and delivery system reform. Congratulations and welcome. (APPLAUSE) Wayne Alex Ian Frederick for being a tireless and gifted higher education leader and health care administrator and world renowned surgeon. As President of Howard University, he has worked to develop a diverse health care workforce while serving as an advisor to US and international officials in navigating the Covid 19 pandemic.

Congratulations and welcome. (APPLAUSE) Katherine Gallagher for her innovative translational research on epigenetic regulation of immune cells during normal and pathologic tissue repair and other cardiovascular disease processes. Congratulations and welcome. (APPLAUSE) Sankar Ghosh for being a pioneer in the purification and cloning of the members of the NF Kappa B family of transcription factors, key effectors of many physiological and pathological states. He elucidated the mechanisms by which NF Kappa B is regulated and established strategies for targeting it therapeutically for inflammatory diseases and cancer. Congratulations and welcome. (APPLAUSE) Peter Glazer for discovering that tumor hypoxia causes genetic instability and that IDH1 mutations suppress DNA repair in cancers, conferring vulnerability to radiation and PARP inhibitors. He developed novel DNA repair inhibitors for cancer therapy and triplex forming oligonucleotides for gene editing. His work led to multiple new clinical trials for cancer.

Congratulations and welcome. (APPLAUSE) Farshid Guilak for contributions to the understanding of the musculoskeletal diseases such as arthritis and the development of new disease therapies through the creation of multiple novel fields of biomedical engineering, including functional tissue engineering, mechanogenetics, and synthetic genetics. Congratulations and welcome. (APPLAUSE) David Gutmann for seminal contributions to the field of neurofibromatosis and related disorders, establishing novel human and murine preclinical model systems to elucidate the impact of germline genetics, cancer cells of origin,

and the tumor microenvironment on pediatric brain tumor biology, patient risk assessment, clinical outcome, and targeted therapeutics. Congratulations and welcome. (APPLAUSE) Michele Heisler for her pioneering research on the intersections of health, human rights and health equity that has informed national and international programs and policies. She has designed and implemented effective peer, family and community support programs in low resource settings, elucidated health impacts of human rights violations, and successfully advocated for remedies.

Congratulations and welcome. (APPLAUSE) Tracey Holloway for advancing understanding of the health benefits of climate solutions and connecting scientific methods from the atmospheric sciences with health information needs. In particular, she has championed satellite applications to health through her leadership of NASA initiatives and connected climate with health for over 20 years. Congratulations and welcome. (APPLAUSE) Lora Virginia Hooper for pioneering analysis of how the gut microbiota impact the innate immune system. Notably, facets of mucosal barrier function, including those involving antimicrobial peptide production have integrated in an elegant, innovative and highly informative manner, the experimental tools and concepts of several disciplines to provide key new biological insights. We offer Dr Hooper virtual congratulations and welcome. (APPLAUSE) Elizabeth A Howell for illuminating the extent and origin of racial and ethnic disparities in women's and children's health, and elucidating interventions to remedy these disparities through her pioneering health services research, leadership, and advocacy.

Congratulations and welcome. (APPLAUSE) Judith A James for being a pioneer in the field of systemic autoimmunity, significantly advancing the understanding of how autoimmune diseases start and how immune responses evolve. She characterized preclinical events in systemic autoimmunity and helped launch the first lupus prevention trial. Congratulations and welcome. (APPLAUSE) Steven Joffe for being a leading expert in research ethics and developing the most widely used instrument for measuring the quality of research informed consent, reconceptualized grounding the ethics of human subjects research in scientific experimentation rather than medical care, and building a world leading medical ethics division. Congratulations and welcome. (APPLAUSE) Camara Phyllis Jones, for contributing novel insights about the epidemiology of health disparities related to racial classifications. She is the preeminent spokesperson on pathways linking racism to poor health outcomes by using innovative, powerful allegories to enable inclusive dialogue and catalyze collective action on this critical public health issue.

Congratulations and welcome. (APPLAUSE) Sheena Ann Josselyn for pioneering work that defined the cellular and molecular basis of the memory trace Engram, and identified how these processes are disrupted in psychiatric, neurodegenerative and substance use disorders. Through her discovery of the Engram, Dr Josselyn 's work lays the foundation for developing novel targeted treatments for human disorders. We offer Dr Josselyn virtual congratulations and welcome. (APPLAUSE) Gagandeep Kang for her outstanding contributions to understand and improve child health through her research in enteric infectious diseases and vaccinology over decades, benefitting children in India and low and middle income countries, and more recently to vaccine science, vaccination policy and communication during the SARS cov2 pandemic. Congratulations and welcome. (APPLAUSE) Katalin Kariko for the development of nucleoside modified mRNA and the nucleoside modified mRNA lipid nanoparticle LNP vaccine platform. The foundations for the first two FDA approved Covid 19 vaccines, pivotal discoveries which opened the door to ending the global pandemic and may revolutionize the delivery of efficacious and safe vaccines, therapeutics and gene therapies.

We prepared our announcement before we knew that you would receive the Nobel Prize, so we offer you congratulations and welcome. (APPLAUSE) Farees Khan for organizing grassroots level responses of under-resourced countries in assisting persons with disabilities who are inequitably affected by climate change related disasters. As a top rehabilitation scientist, she is an architect of the National Rehabilitation Medicine Strategy for the Royal Australian College of Physicians. We offer Dr Khan virtual congratulations and welcome. (APPLAUSE) Sachin Kheterpal for being an international leader in anaesthesiology, informatics and clinical research. His leadership of the Multicenter Perioperative Outcomes Group, MPOG with data on greater than 16 million patients from greater than 50 hospitals across multiple countries and dozens of states has transformed the field through international epidemiologic studies, national personalized quality improvement implementation, pragmatic clinical trials, and data science.

Congratulations and welcome. (APPLAUSE) Laura L Kiessling for chemistry-enabled fundamental discoveries regarding protein glycan interactions pertinent to immunity and inflammation, host microbe interactions, and human development, and leveraging these findings for new therapeutic strategies. Congratulations and welcome. (APPLAUSE) Jonathan Kipnis for his breakthrough discovery of meningeal lymphatic vessels that drain CNS fluids into peripheral lymph nodes and serve as a physical connection between the brain and immune system. This finding challenged the prevailing dogma of CNS being an immune privileged organ. The implications of this work range from neurodegenerative to neuroinflammatory diseases. Congratulations and welcome. (APPLAUSE) Eugene V Koonin for his work on the identification of clusters of homologous genes that created the foundation for systematic study of genome evolution and function. His work illuminated the evolution of microbes and viruses, including discovery of adaptive immunity in bacteria and archaea.

The basis for the genome editing technology known as CRISPR. We offer Dr Koonin virtual congratulations and welcome. (APPLAUSE) Dimitri Krainc for his groundbreaking discoveries in the area of neurodegenerative disorders informed by genetic causes of disease. His work has uncovered key lysosomal and mitochondrial mechanisms across different neurodegenerative disorders that has led to pioneering design and development of targeted therapies. We offer, Dr Krainc, virtual congratulations and welcome. I would like to introduce my friend and colleague, Dr Claire Brindis, Vice Chair of the Council. Thank you, Elena. And thank you, Victor, for your leadership. And I too want to say welcome and congratulations. And we all recall our own day when we were inducted into the society. And I can tell you that we are deeply touched by the celebration, and it brings back such wonderful memories of our own special day. So, congratulations. Grace M. Lee, for being an authority on vaccine policy, vaccine safety, and infectious disease policy.

Her expertise has culminated in multiple key leadership roles. Her work on CDC's Advisory Committee on Immunization Practices has helped guide national decisions, including phasing of COVID 19 vaccine implementation. Congratulations and welcome. Rachel L. Levine, for her expertise in pediatrics and adolescent medicine, and being the first openly transgender official ever to be confirmed by the US Senate. Congratulations and welcome. Anna Lok, for conducting the first systematic study on HPV reactivation among patients receiving chemotherapy. She was a key investigator in interferon and nucleotide analogue trials, leading to their approval for hepatitis B. She led the first study demonstrating that hepatitis C can be cured by orally administered direct acting antiviral drugs. Congratulations and welcome. Crystal L. Mackall, for pioneering immune therapies for children's cancers, and for discovering



fundamental principles of human immunology and translating these insights into cutting edge, engineered cell therapies for cancer.

Congratulations and welcome. Tippi McKenzie, for her seminal contributions to the field of fetal medicine by pioneering a novel in utero molecular therapies for fetuses with genetic diseases such as in-utero, stem cell transplantation for alpha thalassemia major, and in utero enzyme replacement therapy for lysosomal storage disorders. Congratulations and welcome. Edward Maibach, for ground breaking research on public understanding of climate change and for leadership in organizing a range of professional communities, including physicians and other health professionals, climate scientists, and broadcast meteorologists to educate the public and policymakers about the health risks of climate change and health benefits of climate solutions. Congratulations and welcome. Miguel Moreno, for being a world leader in primary care biostatistics. As co-founder of the Primary Care Latino Equity Research Lab, he pioneers novel quantitative approaches to study racial ethnic subpopulations in electronic health record, EHR data.

His pioneering methods to use EHR data for health equity research have revolutionized this field. Felicitaciones and welcome. James MacDowell Markert, for being a world expert on oncolytic viruses. Author on first ever paper of genetically engineered oncolytic viruses. Primary author on the first in-human trial of an oncolytic virus. Senior author on first use of an IL-12 expressing virus for human glioma and currently conducting adult and pediatric brain tumor trials. Welcome and congratulations. Peter Wayne Marks, for leading the SARS-COV-2 pandemic response by one, a pivotal role establishing Operation Warp Speed, two, establishing FDA guidelines for COVID 19 vaccine development. Three, establishing FDA's policy for emergency use authorization and approval of COVID 19 vaccines. We honor Dr Marks virtually, adding our congratulations and welcome. Robert James Mash, for being internationally known as the leading family medicine researcher in sub-Saharan Africa and being recognized as a lifetime Honorary Member of the World Organization of Family Doctors, and for his extraordinary contribution to medicine by the South African Medical Association.

He is president of the South African Academy of Family Physicians. We honor Dr Mash virtually, adding our warm welcome and congratulations. Michelle Kay McGuire, for being an internationally renowned expert on maternal, dietary and environmental factors influencing human milk composition. Her research on the milk microbiome changed the paradigm of human milk sterility, with direct implications to maternal and infant health and well-being. She has been a leader in the global effort to provide evidence based breastfeeding recommendations during the COVID 19 pandemic. Welcome and congratulations. John Michael McWilliams Jr, for being an exceptional scholar whose seminal research has examined the design and impact of health care payment systems and the organization and quality of health care delivery. Known for his rigor, creativity, and depth, he has produced groundbreaking evidence and substantive insights that have directly influenced federal payment policy, which he now helps design as a senior advisor to the center for Medicare and Medicaid Innovation.

Welcome and congratulations. Paul S. Mischel, for his paradigm shifting research on extrachromosomal DNA, which has opened a new field in cancer biology with profound implications for non-mendelian disease, genetics and the impact of altered genome architecture. His pioneering research has provided seminal insight into the molecular pathogenesis of brain cancer, revealing a landscape of actionable drug targets. Welcome and congratulations. Lisa Monteggia, for making seminal contributions to the neurobiology of emotion, pioneering work, identifying a causal link between neurotrophin signaling and

antidepressant action. And transformative contributions to our understanding of synaptic plasticity mechanisms that underlie the therapeutic effects of psychiatric treatments. Welcome and congratulations. Rachel Morello-Frosch, for being a renowned expert on structural determinants of environmental health inequities. She examines this environmental justice question in the context of climate change, air pollution, environmental chemicals, and effects on women's health, perinatal outcomes, and community health.

She is a leader in the application of community engaged data science. Welcome and congratulations. Margaret P. Moss, for exemplary leadership in nursing, law, and indigenous health inequities. As the only American Indian nurse, Ph.D, JD, director of the First Nations House of learning at U British Columbia, she co-led the Indigenous Strategic Plan, one of the few in North American universities launched to a global audience and published the first nursing text on American Indian health. Welcome and congratulations. Bhramar Mukherjee, for seminal contributions to statistical methods in public health and biomedical sciences, pioneering methods for the integration of genes, environment, and disease phenotypes across health conditions. Analysis of the COVID 19 epidemic that have informed policy in India. Exemplary leadership and nationally recognized initiatives to diversify the data and statistical science workforce. Welcome and congratulations. Kari C. Nadeau, for leadership in studies of climate change and health, drawing on expertise in immunology, genetics, environmental sciences, allergy and asthma.

Her pioneering research that environmental exposures modify immune cell genes linked to health effects is leading to new policies as well as therapeutic and prevention strategies. We honor Dr Nadeau virtually, adding our very warm welcome and congratulations. Victor Nizet, for discovering numerous hallmark virulence mechanisms of bacterial pathogens and key roles of antimicrobial peptides, neutrophils, and macrophages in innate immunity. His translational research has yielded innovative approaches to counteract the threats of antibiotic resistance and sepsis. Welcome and congratulations. John Nkengasong, for making seminal scientific contributions in viral diagnostics. As Africa CDC director, he leads Africa's pandemic preparedness and COVID 19 response, including his vociferous advocacy for vaccine equity. His nomination to lead PEPFAR draws upon his past global health leadership at US CDC's global Aids program. We honor Dr Nkengasong virtually, adding our warm welcome and congratulations.

Akinlolu Ojo, for identifying major racial disparities in kidney transplantation. He established a national donor assistance program that has supported greater than 10,000 live organ donors. Dr Ojo established a continent wide research consortium, conducting clinical and translational research in greater than 14,000 sub-Saharan Africans. As dean, he increased the diversity of URIM medical school matriculants by 83%. Welcome and congratulations. Saad B. Omer, for using high impact science to inform and change vaccine policy and clinical vaccine recommendations in multiple countries. He conducted seminal studies on vaccine refusal, maternal immunization, and COVID 19. He used public scholarship to advocate for vaccines and served in senior policy advisory roles for WHO, Gavi, HHS, etc. Welcome and congratulations. Anthony E. Oro, for solidifying the first link between hedgehog signaling and human cancer, and building chromatin maps, identifying how environmental factors drive tumor, epigenetic plasticity, and drug resistance.

He built developmental chromatin maps to uncover disease mechanisms and enable clinical manufacturing of pluripotent cell derived tissues for incurable skin diseases. Welcome and congratulations. Jose Pagan, for leadership in aligning health care delivery, payment and social systems

to address health equity and specifically for understanding ripple effects of uninsurance in US communities. He has strengthened capacity to measure and improve health equity, including under pandemic conditions, helping guide future practices nationally. Bienvenido Felicitaciones. Vikram Patel, for a scholarship on the burden and determinants of mental health problems in resource poor settings. And on the deployment of community resources for their prevention, diagnosis and care, has transformed policy and practice globally and driven the emergence of global mental health as a vibrant field of research, training, implementation, and advocacy. Welcome and congratulations. Monica Elizabeth Peek, for international leadership in reducing health disparities through research on how structural racism and the social determinants of health perpetuate disparities among African-Americans.

Her cutting edge research has informed national guidelines and best practices regarding shared decision making between patients and physicians, and community engaged strategies to improve health among African-Americans. Welcome and congratulations.

AUDIENCE:

(APPLAUSE)

SPEAKER:

Christine A Petersen, for leadership in the epidemiology, immunity, and Transmission of Emerging Pathogens. Her groundbreaking research in vaccine development and computational modeling have delineated critical determinants of vector-borne disease protection of people and animals to lessen the burden of emerging zoonotic infectious diseases across health settings. Welcome and congratulations.

AUDIENCE:

(APPLAUSE)

SPEAKER:

Katie Pollard, for discovering human accelerated regions and demonstrating that these fast-evolving developmental enhancers regulate psychiatric disease genes uniquely in humans. Her open-source software for gene expression, comparative genomics, and microbiomes are used worldwide. We honor Dr Pollard virtually, adding our welcome and congratulations.

AUDIENCE:

(APPLAUSE)

SPEAKER:

Kornelia Polyak, for documenting the clinical and functional relevance of intratumoral cellular heterogeneity. She has convincingly shown using novel technologies and experimental models, that many other cell types, besides the neoplastic cells, are responsible for the biological and physiological characteristics of any individual tumor. Welcome and congratulations.

AUDIENCE:

(APPLAUSE)

SPEAKER:

John Quackenbush, for being a pioneer in computational and systems biology and reproducible research with a record of continuous innovation. His recent work bridges the gap between genetics and gene

regulation, giving unprecedented insight into human health and disease, including how a person's sex influences disease risk and response to therapy. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Megan Ranney, for recognition as a national public health leader and communicator who has brought deeper understanding of public health challenges and who has changed public health paradigms through technology-based interventions to reduce violence, particularly firearm injury, mental illness, substance use, and infectious disease risk. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Kimryn Rathmell, for pioneering basic science investigation of kidney cancer, and her work reveals the biological diversity of these tumors. In addition to uncovering novel mechanisms of cancer promotion, paving the way for new therapeutics. She has created national mentorship networks and forged pathways for physician-scientist recognition and career impact. We honor Dr Rathmell virtually, adding our warm welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Marc Elliott Rothenberg, for being recognized as a thought leader in allergy who uncovers mechanisms and then new therapies contributing to a new class of drugs, anti-icing therapy, and elucidating an allergen sensing mechanism. We honor Dr Rothenberg virtually, adding our warm well, sorry, adding our warm welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Norman Edward Sharpless, for being a highly regarded cancer researcher with significant contributions to advance our understanding of cellular aging, circular RNAs, and the cell cycle. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Krishna V Shenoy, for making seminal contributions both to basic neuroscience and to translational and clinical research. His work has shown how networks of motor critical neurons operate as dynamical systems, and he has developed new technologies to provide new means of restoring movement and communication to people with paralysis. Sadly, Dr Shenoy passed away earlier this year and here to represent him, his family, and his wife, (UNKNOWN) his cousin, Dr (UNKNOWN) Shenoy, who will be accepting the membership certificate on his behalf. We offer you our condolences. Welcome and

congratulations. (APPLAUSE) Yang Shi, for making the groundbreaking discovery that histone methylation, a central epigenetic mechanism long considered irreversible, is in fact reversible. He identified the first histone demethylase, and subsequently many others. His elegant mechanistic discoveries revolutionized the epigenetics field and have had a far-reaching impact on basic and translational research. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Ida Sim, for her clinical expertise and innovative methods, supporting a modern electronic infrastructure that bridges mobile computing with institutional records and clinical trials data. She has championed and created groundbreaking technical and policy architectures and tools, enriching care processes with patient experience information, and accelerating discovery through open data sharing. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Mario Sims, for pioneering work documenting that perceived racial discrimination, especially of highly burdensome, predicted both higher baseline prevalence of hypertension in African Americans and a higher incidence of hypertension 8 to 10 years later. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Gwendolyn Sowa, for research that follows an integrated and transdisciplinary approach to exploring the biology of intervertebral disc degeneration and its relationship to back pain. She explores treatments including motion-based therapies and biologic interventions, influencing inflammation and mechanobiology of the musculoskeletal systems, with particular emphasis on the spine. This work, low back pain biological, biomechanical, and behavioral phenotypes recently received a Mechanistic Research Center grant through the NIAMS Back Pain Consortium research program under the NIH, helping to end addiction long-term heal initiative. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Sohail Tavazole, for seminal studies that have uncovered molecular and cellular processes governing cancer metastasis, including the discovery of a hereditary basis for metastasis and advancing novel anti-metastatic therapies into clinical testing. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Marleen Temmerman, for being one of the pen-holders of the UN Global Strategy for Women's Children

and Adolescents Health. Founding director of the International Centre for Reproductive Health at Ghent University, with sister research organizations in Kenya and Mozambique, and a collaborative academic network of 32 universities and seven NGOs worldwide. And the director of the Centre of Excellence in Women and Child Health, Aga Khan University, East Africa. Congratulations and welcome.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Sally Temple, for using (UNKNOWN) clonal analyses of mammalian forebrain progenitors to reveal stem cells in the central nervous system, and discovering that internal counting mechanisms govern progenitor cell divisions. In recent years, she pioneered approaches in stem cell biology for modeling and developing therapies for retinal and brain neurodegenerative disorders. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Alan Thévenet Tita, for his work as an innovative and impactful perinatal epidemiologist and clinical triallist who leads large, collaborative, multicenter, national and international trials and observational studies that have shifted practice and policy and improved the quality of national and global obstetric care. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Bruce J Tromberg, for his leadership in biomedical engineering and the NIH Rapid Acceleration of Diagnostics Technology, RADx Tech initiative. He helped guide the nation's response to the Covid 19 pandemic by engaging government, academia, and the R&D innovation entrepreneurship community to increase SARS-CoV-2 test capacity and performance in home point of care and lab settings at unprecedented speed, scale, and impact. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Chien-Wen Tseng, for making seminal contributions to ensure medication access for 1 in 4 Americans unable to afford their prescriptions. Her work on Medicare Part D drug benefits, 11 Jama-affiliated manuscripts supported 2020 legislation to redesign Part D to protect 48 million patients from losing coverage mid-year. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

David A. Tuveson, for his transformative leadership in pancreatic cancer biology. His work has led to the development of powerful pancreatic cancer models, which has been fundamental to pre-clinical studies

of understanding targeted therapy and treatment of pancreatic cancer. He most recently has been a leader in organoid-based cancer models. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:  
Omaida C Velazquez, for pioneering research that identified E-selectin as a membrane-bound adhesion molecule that induces pro-angiogenesis and healing in a vascular medicine field where previously only soluble factors had been considered therapeutic candidates. Her groundbreaking work ushered a paradigm-shifting platform to reverse tissue damage by arterial occlusion or diabetes. (SPEAKS FOREIGN LANGUAGE)

AUDIENCE:  
(APPLAUSE)

SPEAKER:  
Jennifer Webster-Cyriaque, for making seminal contributions to our understanding of the role of virus-host interaction in oral disease. Most notably, she showed that oral EBV permissive infection was a lytic and transforming infection. Her paradigm-shifting work described oral KSHV replication and oral iatrogenic Kaposi's development. Welcome and congratulations.

AUDIENCE:  
(APPLAUSE)

SPEAKER:  
Drew Weissman, for discovering the technology of modification of mRNA for vaccine design, which has launched a new era of vaccine development. The modified mRNA vaccine design has been used in both the BioNTech Pfizer and Moderna Covid-19 vaccines and has revolutionized the field of vaccine development. As you know, the citation was also prepared before the recent announcements earlier this week, and we honor Dr Weissman virtually and congratulate him particularly for this special award of the Nobel Prize in Medicine this week.

AUDIENCE:  
(APPLAUSE)

SPEAKER:  
Ruth Enid Zambrana, for pioneering research that has transformed our understanding of the social determinants of minority women's health, a leading authority on Hispanic health. She continues to do pathbreaking work on the health of underrepresented faculty, strategies to increase underrepresented scholars in the health professions, and the translation of research into policy. (SPEAKS FOREIGN LANGUAGE)

AUDIENCE:  
(APPLAUSE)

SPEAKER:  
Well, what about a round of applause for all the members?

AUDIENCE:  
(APPLAUSE)

SPEAKER:

So for me, welcoming these brilliant members is certainly a pleasure of my life, but also seeing the family and friends and everybody here celebrating this is just wonderful. So now we are going to be done for this ceremony. We're gonna get some food and celebrate. There will be no speeches, nothing but just celebration.

AUDIENCE:  
(APPLAUSE)

SPEAKER:

Well...

AUDIENCE:  
(APPLAUSE)

SPEAKER:

One thing. Tomorrow we have a busy weekend with (UNKNOWN) interest groups and award presentations and member business meeting. I hope you'll all be there. And of course, you will have a chance for the new members for me to introduce you to all the membership at the Monday meeting. So thank you very much.

AUDIENCE:  
(APPLAUSE)