

CANCERS

Can we beat the odds?

Scientific Program of the NAM Annual Meeting
October 15, 2018
Washington, DC

#NAMMtg



NATIONAL
ACADEMY
of MEDICINE

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Save the dates!

Next Annual Meetings

October 19-21, 2019

October 17-19, 2020—50th Anniversary

Monday, October 15, 2018

6:45 a.m.–8:00 a.m.

General Breakfast

Tent

8:00 a.m.–8:20 a.m.

Introductions of NAM Members and Fellows

Victor J. Dzau, MD, *President, National Academy of Medicine*

Class of 2017 NAM Members

2018-2019 Robert Wood Johnson Foundation Health Policy Fellows

2018-2019 NAM/AAN/ANA/ANF Distinguished Nurse Scholar-in-Residence

2018-2019 FDA Tobacco Regulatory Science Fellows

2018-2020 NAM Fellows

2018-2020 International Health Policy Fellow

NAM Emerging Leaders

8:20 a.m.–9:00 a.m.

President's Report to the NAM Membership

Victor J. Dzau, MD, *President, National Academy of Medicine*

9:00 a.m.–9:30 a.m.

Award Presentations (see award winners on page 7)

Gustav O. Lienhard Award for Advancement of Health Care

Presented by Glenn D. Steele, Jr., MD, PhD, *Chairman, GSteele Health Solutions*

Rhoda and Bernard Sarnat International Prize in Mental Health

Presented by Margarita Alegria, PhD, *Professor of Psychology, Departments of Medicine & Psychiatry, Harvard Medical School*

NAM Member Awards

Presented by Jane E. Henney, MD, *Home Secretary, National Academy of Medicine*

NAM Cecil Awards

Presented by J. Michael McGinnis, MD, MA, MPP, *The Leonard D. Schaeffer Executive Officer, National Academy of Medicine*

Cancers: Can We Beat the Odds?

9:30 a.m.–9:45 a.m.

Welcome and Introduction by the Program Chair

Story C. Landis, PhD, *Scientist Emeritus, National Institute of Neurological Disorders and Stroke*

9:45 a.m.–10:15 a.m.

Keynote Address: Cancer Immunotherapy: The End of the Beginning

Laurie H. Glimcher, MD, *President and CEO, Dana-Farber Cancer Institute*

10:15 a.m.–10:45 a.m.

Break

10:45 a.m.–12:00 p.m.

Cancer Prevention: Promise and Unrealized Potential— Half of All Cancers Could Be Prevented, Why Aren't They?

Moderator:

Otis W. Brawley, MD, MACP, FASCO, FACE, *Chief Medical Officer, American Cancer Society; and Professor of Hematology, Medical Oncology, Medicine, and Epidemiology, Emory University*

New Strategies to Prevent Cancer: Obesity and Other Common Risk Factors

Cornelia Ulrich, MS, PhD, *Senior Director, Huntsman Cancer Institute*

Inherited Cancer Genomics and Prevention

Kenneth Offit, MD, MPH, *Chief, Clinical Genetics Service, Department of Medicine; and Member, Cancer Biology and Genetics Program Memorial Sloan-Kettering Cancer Center*

Targeting Cancer with Precision Prevention

Ernest Hawk, MD, MPH, *Vice President and Head, Division of Cancer Prevention and Population Sciences; and T. Boone Pickens Distinguished Chair for Early Prevention of Cancer, The University of Texas MD Anderson Cancer Center*

The Role of Vaccination in Cancer Prevention: Focus on HPV and Cervical Cancer—A Preventable Cancer That Is on the Rise Globally

Douglas R. Lowy, MD, *Deputy Director, National Cancer Institute, National Institutes of Health*

12:00 p.m.–1:30 p.m.

General Lunch

Tent

1:30 p.m.–2:45 p.m.

The Biology of Cancers: Challenges for Therapeutics

Moderator:

Levi A. Garraway, MD, PhD, *Senior Vice President, Oncology Research and Development, Eli Lilly and Company*

Getting Ahead of Resistance

Kevan M. Shokat, PhD, *Professor of Cellular and Molecular Pharmacology, Department of Cellular and Molecular Pharmacology, University of California, San Francisco*

Tumor Heterogeneity and Tumor Evolution

Kornelia Polyak, MD, PhD, *Professor of Medicine, Dana-Farber Cancer Institute, Harvard Medical School*

Overcoming Resistance to Molecularly Targeted Cancer Therapy

Charles L. Sawyers, MD, *Investigator, Howard Hughes Medical Institute; and Marie-José and Harvey Kravis Chair in Human Oncology & Pathogenesis and Chairman, Human Oncology & Pathogenesis Program, Memorial Sloan Kettering Cancer Center*

Resistance to Immune Therapy

Antoni Ribas, MD, PhD, *Professor of Medicine, Professor of Surgery, Professor of Molecular and Medical Pharmacology, University of California, Los Angeles*

2:45 p.m.–4:00 p.m.

Fighting Cancers: From Biology to Policy

Moderator:

Mary C. Beckerle, PhD, *Jon M. Huntsman Presidential Endowed Chair, Chief Executive Officer, Huntsman Cancer Institute, Associate Vice President for Cancer Affairs, University of Utah*

Cancer Genomics

Elaine R. Mardis, PhD, *Nationwide Foundation Chair of Genomic Medicine, Co-Executive Director, Institute for Genomic Medicine, Nationwide Children's Hospital*

Precision CAR T-Cell Therapeutics

Carl June, MD, *Richard W. Vague Professor in Immunotherapy, Department of Pathology and Laboratory Medicine; Director, Center for Cellular Immunotherapies; and Director, Parker Institute for Cancer Immunotherapy, University of Pennsylvania School of Medicine*

Cancer Treatment and Financing: Commercial Payer Perspective

Lee N. Newcomer, MD, MHA, *Principal, Lee N. Newcomer Consulting, LLC*

Cancer Drug Pricing and the Last Mile of Innovation

Peter B. Bach, MD, MAPP, *Director, Center for Health Policy and Outcomes, Department of Epidemiology & Biostatistics, Memorial Sloan-Kettering Cancer Center*

4:00 p.m.–4:05 p.m.

Concluding Remarks by the Program Chair

Story C. Landis, PhD, *Scientist Emeritus, National Institute of Neurological Disorders and Stroke*

President's Forum

**Affordable Medicines: Access, Innovation,
and the Public Interest**

4:05 p.m.–4:10 p.m.

Welcome and Introduction

Victor J. Dzau, MD, *President, National Academy of Medicine*

4:10 p.m.–4:30 p.m.

Special Address

The Honorable Alex Michael Azar, II, JD, *Secretary of Health and Human Services, U.S. Department of Health and Human Services*

4:30 p.m.–5:45 p.m.

Panel Discussion

Moderator:

Victor J. Dzau, MD, *President, National Academy of Medicine*

Panelists:

The Honorable William Cassidy, MD, *United States Senator for Louisiana*

John M. O'Brien, PharmD, *Advisor to the Secretary and Deputy Assistant Secretary for Health Policy, U.S. Department of Health and Human Services*

Gail K. Boudreaux, MBA, *President and Chief Executive Officer, Anthem, Inc.*

Kenneth C. Frazier, JD, *Chairman and Chief Executive Officer, Merck & Co., Inc.*

Norman R. Augustine, MSE, *Retired Chairman and Chief Executive Officer, Lockheed Martin Corporation*

5:45 p.m.

Adjourn

5:45 p.m.–7:30 p.m.

Reception

Annual Meeting Program Planning Committee

Story C. Landis, PhD, (Chair), *Scientist Emeritus, National Institute of Neurological Disorders and Stroke*

Mary C. Beckerle, PhD, *Jon M. Huntsman Presidential Endowed Chair, CEO and Director, Huntsman Cancer Institute, and Associate Vice President of Cancer Affairs, University of Utah*

Angela Diaz, MD, MPH, *Jean C. and James W. Crystal Professor, Department of Pediatrics and Department of Environmental Medicine and Public Health, Icahn School of Medicine at Mount Sinai; and Director, Mount Sinai Adolescent Health Center*

Elaine Fuchs, PhD, *Investigator, Howard Hughes Medical Institute, Laboratory Head of Mammalian Cell Biology and Development, The Rockefeller University*

Douglas R. Lowy, MD, *Deputy Director, National Cancer Institute, National Institutes of Health*

Gilbert S. Omenn, MD, PhD, *Professor of Computational Medicine and Bioinformatics, Internal Medicine, Human Genetics, and Public Health, Center for Computational Medicine and Bioinformatics, University of Michigan*

Charles Sawyers, MD, *Investigator, Howard Hughes Medical Institute; Marie-José and Harvey Kravis Chair in Human Oncology & Pathogenesis; and Chairman, Human Oncology & Pathogenesis Program, Memorial Sloan Kettering Cancer Center*

2018 Award Winners

Congratulations to Our Award Winners

Gustav O. Lienhard Award for Advancement of Health Care

Stuart H. Altman, PhD

Rhoda and Bernard Sarnat International Prize in Mental Health

Kenneth B. Wells, MD, MPH

Walsh McDermott Medal

Elaine L. Larson, PhD, RN

David Rall Medal

Hedvig Hricak, MD, PhD

Adam Yarmolinsky Medal

Nicholas A. Peppas, ScD

Cecil Staff Awards

Sandra H. Matthews Cecil Award for Administrative Excellence

Morgan Kanarek, *Chief of Staff, National Academy of Medicine*

Cecil Award for Individual Excellence

Amy Geller, MPH, *Senior Program Office, Board on Population Health, Health and Medicine Division (HMD)*

Cecil Award for Excellence of a Group/Team

Roundtable on Obesity Solutions Team

Leslie Sim, MPH, *Senior Program Officer, Food and Nutrition Board, HMD*

Heather D. Cook, MPA, *Senior Program Officer, Food and Nutrition Board, HMD*

Elle Alexander, MSPH, *Associate Program Officer, Food and Nutrition Board, HMD*

Amanda Nguyen, MPH, *Associate Program Officer, Food and Nutrition Board, HMD*

Cypress Lynx, *Senior Program Assistant, Food and Nutrition Board, HMD*

Speakers' Biosketches

Norman R. Augustine, MSE, is a retired Chairman and Chief Executive Officer of Lockheed Martin Corporation. He has served as an Assistant Secretary, Undersecretary, and subsequently Acting Secretary of the U.S. Army. He has been on the faculty of Princeton University, has served as Chairman and Principal Officer of the American Red Cross, and has served as Chairman of the Defense Science Board. Mr. Augustine has served as a member of the Boards of Directors of Conoco, Phillips, Black & Decker, Proctor & Gamble, and Lockheed Martin. He is a regent of the University System of Maryland and has been a trustee of Princeton University, Massachusetts Institute of Technology, and Johns Hopkins University. Mr. Augustine served for 16 years on the President's Council of Advisors of Science and Technology under both Republican and Democratic presidents. He was also the founding chair of the National Institutes of Health Scientific Management Review Board and chair of the Henry M. Jackson Foundation for the Advancement of Military Medicine. Mr. Augustine is a member of the American Philosophical Society and the Council on Foreign Relations and a fellow of the American Academy of Arts and Sciences. He received the U.S. National Medal of Technology, Joint Chiefs of Staff Distinguished Public Service Award, and the U.S. Department of Defense's highest civilian decoration, the Distinguished Service Medal, five times. Mr. Augustine is an elected member of the National Academy of Sciences and the National Academy of Engineering where he was the former chairman.

The Honorable Alex Michael Azar, II, JD, is the Secretary of Health and Human Services for the U.S. Department of Health and Human Services. He has spent his career working in both the public and private sectors as an attorney and in senior leadership roles, focused on advancing healthcare reform, research, and innovation. From 2001 to 2007, Mr. Azar served at the U.S. Department of Health and Human Services—first as its General Counsel (2001–2005) and then as Deputy Secretary. During his time as Deputy Secretary, he was involved in improving the department's operations, advancing its emergency preparedness and response capabilities and its global health affairs activities, and helping oversee the rollout of the Medicare Part D prescription drug program. In 2007, he rejoined the private sector as Senior Vice President for Corporate Affairs and Communications at Eli Lilly and Co. From 2012 to 2017, Mr. Azar served as president of Lilly USA LLC, the company's largest affiliate. He

also clerked for U.S. Supreme Court Justice Antonin Scalia for several years prior to practicing law.

Peter B. Bach, MD, MAPP, is Director for the Center for Health Policy and Outcomes in the Department of Epidemiology & Biostatistics at Memorial Sloan-Kettering Cancer Center, where he leads an academic team of researchers and analysts. Dr. Bach is a physician, epidemiologist, researcher, and healthcare policy expert on the cost and value of drugs in the U.S. Through the Drug Pricing Lab, he and his team work to educate policymakers, healthcare professionals, industry officials, and patients on drug development and pricing. Their work aims to promote reforms based on evidence and research to reduce the high cost of drugs in the U.S. healthcare system while ensuring innovation for the future. In 2015, he released DrugAbacus, the first ever interactive tool to help determine the price of a cancer drug based on its value compared with the price assigned by the pharmaceutical company. The online DrugAbacus pricing tool allows the user to manipulate various elements that contribute to pricing, such as cost of research, improved outcomes versus earlier drugs, and side effects. It demonstrates that it is possible to arrive at an evidence driven, value-based price focused on the patient. Dr. Bach has published over 100 peer-reviewed articles and editorials in scientific journals. As a pulmonologist, he has also been a pioneering researcher in the areas of lung cancer screenings, tobacco use guidelines, cancer care delivery in Medicare, and confronting racial and ethnic disparities in healthcare and lung cancer treatment. Since 2008, Dr. Bach has been a Senior Scholar at the International Agency for Research on Cancer. He is also an elected member of the National Academy of Medicine.

Mary C. Beckerle, PhD, is the Jon M. Huntsman Presidential Endowed Chair and Chief Executive Officer and Director of Huntsman Cancer Institute, a National Cancer Institute-designated Comprehensive Cancer Center that is a leader in cancer genetics and precision prevention. She also serves as Associate Vice President of Cancer Affairs at the University of Utah. An internationally recognized scientist focused on fundamental aspects of cancer cell biology, Dr. Beckerle's research program has been continuously funded by the National Institutes of Health for over 20 years. She is a respected leader in science policy and practice, having served as president of the American Society of Cell Biology and on the Board of Directors of the American Association of Cancer Research. She is a member of the Howard Hughes Medical Institute's Medical Advisory Board and

serves on the Boards of Directors of Huntsman Corporation and Johnson & Johnson. In addition to service on the Advisory Committee to the NIH Director, Dr. Beckerle, was a member of the Blue Ribbon Panel that was appointed to help guide Vice President Biden's Cancer Moonshot initiative, co-chairing the Precision Prevention and Early Detection Working Group. She is an elected Fellow of the American Academy of Arts and Sciences and was elected to membership in the American Philosophical Society. She is the recipient of the National Cancer Institute's 2018 Alfred G. Knudsen Award.

Gail K. Boudreaux, MBA, is President and Chief Executive Officer of Anthem, Inc., a Fortune 50 company and leading health benefits provider, serving more than 40 million consumers through its affiliated health plans. In total, Anthem serves over 73 million individuals across 27 states through its broad portfolio of health insurance and services subsidiaries. Throughout her more than three decades in the healthcare industry, Ms. Boudreaux has established an outstanding record of successfully leading multi-billion dollar businesses. As former CEO of United Healthcare, she led the largest business division of UnitedHealth Group, where she had responsibility for approximately \$120 billion in revenue and managed more than 60,000 employees serving 45 million consumers. Prior to United Healthcare, Ms. Boudreaux served as Executive Vice President of Health Care Services Corporation and earlier as President of Blue Cross/Blue Shield of Illinois. She currently serves on the board of directors for Zimmer Biomet Holdings.

Otis W. Brawley, MD, MACP, FASCO, FACE, is the Chief Medical and Scientific Officer at the American Cancer Society. He is responsible for promoting the goals of cancer prevention, early detection, and quality treatment through cancer research and education. He champions efforts to decrease smoking, improve diet, and provide the critical support that cancer patients need. Dr. Brawley also guides efforts to enhance and focus the research program, upgrade the Society's advocacy capacity, and concentrate community cancer control efforts in areas where they will be most effective. As an acknowledged global leader in the field of health disparities research, he is a key leader in the Society's work to eliminate disparities in access to quality cancer care. He currently serves as professor of hematology, oncology, medicine and epidemiology at Emory University. Among his numerous awards, Dr. Brawley was a Georgia Cancer Coalition Scholar, received the Key to St. Bernard Parish, and received the U.S. Public Health Service (PHS) Meritorious Service Medal for his work as a PHS

Commissioned Officer in the aftermath of Hurricane Katrina. He is also a recipient of the Department of Defense's Uniformed Services University Distinguished Service Award for his contributions to military medical education. Dr. Brawley is a Fellow of the American Society of Clinical Oncology and the American College of Epidemiology. He is also an elected member of the National Academy of Medicine.

The Honorable William Cassidy, MD, is the United States Senator for Louisiana. For nearly three decades, he has provided care for uninsured and underinsured patients in Louisiana's charity hospital system. During this time, Senator Cassidy co-founded the Greater Baton Rouge Community Clinic, a clinic providing free dental and health care to the working uninsured. He also created a private-public partnership to vaccinate 36,000 greater Baton Rouge area children against Hepatitis B at no cost to the schools or parents. In the wake of Hurricane Katrina, Senator Cassidy led a group of health care volunteers to convert an abandoned K-Mart building into an emergency health care facility, providing basic health care to hurricane evacuees. In 1990, he joined Louisiana State University Medical School teaching medical students and residents at Earl K. Long Hospital, a hospital for the uninsured. In 2006, he was elected to the Louisiana State Senate, and in 2008, he was elected to the United States House of Representatives to represent Louisiana's Sixth Congressional District. In the U.S. House, Senator Cassidy served on the Energy and Commerce Committee. In 2014, he was elected to the U.S. Senate and serves on the Health, Education, Labor and Pensions (HELP), Energy and Natural Resources, Finance, Veterans Affairs and Joint Economic Committees.

Victor J. Dzau, MD, is the President of the National Academy of Medicine (NAM), formerly the Institute of Medicine (IOM). In addition, he serves as Vice Chair of the National Research Council. Dr. Dzau is Chancellor Emeritus and James B. Duke Professor of Medicine at Duke University and the past President and CEO of the Duke University Health System. Previously, Dr. Dzau was the Hershey Professor of Theory and Practice of Medicine and Chairman of Medicine at Harvard Medical School's Brigham and Women's Hospital, as well as Chairman of the Department of Medicine at Stanford University.

Kenneth C. Frazier, JD, is the Chairman of the Board and Chief Executive Officer of Merck & Co., Inc. Under his leadership, Merck is delivering innovative lifesaving medicines and vaccines, as well as long-term and

sustainable value to its multiple stakeholders. He has substantially increased Merck's investment in research, including early research, while refocusing the organization on the launch and growth of key products that provide benefit to society. He has also led the formation of philanthropic and other initiatives that build on Merck's 125-year plus legacy. Prior to joining Merck, Mr. Frazier was a partner with the Philadelphia law firm of Drinker Biddle & Reath. He sits on the boards of PhRMA, Weill Cornell Medicine, Exxon Mobil Corporation, and Cornerstone Christian Academy in Philadelphia, PA. He also is a member of the American Academy of Arts and Sciences, the American Philosophical Society, The Business Council, the Council of the American Law Institute, and the American Bar Association.

Levi A. Garraway, MD, PhD, is currently Senior Vice President of Global Development and Medical Affairs at Eli Lilly Company. Prior to joining Lilly, Dr. Garraway served as an investigator of the Howard Hughes Medical Institute; an Associate Professor of Medicine at the Dana-Farber Cancer Institute, Harvard Medical School; and an Institute Member of the Broad Institute. He was the inaugural Director of the Joint Center for Cancer Precision Medicine, which spans the Dana-Farber Cancer Institute, Brigham and Women's Hospital, Boston Children's Hospital and the Broad Institute of MIT and Harvard. Dr. Garraway led a research group that studied cancer genomics, drug resistance, and cancer precision medicine. His research informed several gene targets and "druggable" pathways relevant to the genesis and therapeutic vulnerabilities of melanoma, prostate cancer, and other malignancies. His group developed a platform for systematic cancer mutation profiling that inspired multiple personalized cancer medicine efforts across the U.S. and beyond. Dr. Garraway serves on the scientific advisory boards of major cancer centers, including Sloan Kettering and MD Anderson, and he is a member of several major National Institutes of Health (NIH) and National Cancer Institute (NCI) advisory committees. He has received numerous awards including the Paul Marks Prize for Cancer Research, the Jane Cooke Wright Award from the American Association for Cancer Research, the New Innovator Award from the NIH, and an Outstanding Investigator Award from NCI. In 2009, Dr. Garraway was inducted into the American Society for Clinical Investigation and served as President (2015-2016). In 2015, he was inducted into the Association for American Physicians.

Laurie H. Glimcher, MD, is the President and CEO of the Dana-Farber Cancer Institute; Principal Investigator and Director of the Dana-Farber/

Harvard Cancer Center; and the Richard and Susan Smith Professor of Medicine at Harvard Medical School. Previously, she was the Stephen and Suzanne Weiss Dean and Professor of Medicine of Weill Cornell Medicine and Provost for Medical Affairs of Cornell University. From 1991 to 2012, she served as the Irene Heinz Given Professor of Immunology at the Harvard School of Public Health and Professor of Medicine at Harvard Medical School, serving as Senior Physician and Rheumatologist at Brigham and Woman's Hospital. Dr. Glimcher is a distinguished immunologist, widely renowned for her work in one of the most promising areas of cancer research. She is an elected member of the National Academy of Sciences and National Academy of Medicine. Dr. Glimcher is a Fellow of the American Academy of Arts and Sciences, the former President of the American Association of Immunologists, and is a member of the Cancer Research Institute, Prix Galien, Parker Institute for Cancer Immunotherapy and Repare.

Ernest Hawk, MD, MPH, is Vice President and Division Head for Cancer Prevention and Population Sciences at The University of Texas MD Anderson Cancer Center and holds the T. Boone Pickens Distinguished Chair for Early Prevention of Cancer. His additional responsibilities include leadership of the Duncan Family Institute for Cancer Prevention and Risk Assessment, as well as MD Anderson's Cancer Prevention and Control Platform that plans, implements, and evaluates evidence-based actions in public policy, professional/public education, and community-based service delivery to reduce cancer and related risk factors at the population level. Dr. Hawk's personal research interests include preclinical and clinical drug development for cancer prevention, prevention clinical trials, and the inclusion of diverse and underserved populations in cancer research and control programs to improve outcomes and reduce disparities.

Carl June, MD, is the Director of the Center for Cellular Immunotherapies at the Perelman School of Medicine, and Director of the Parker Institute for Cancer Immunotherapy at the University of Pennsylvania. In 2011, his research team published findings detailing a new therapy in which patients with refractory and relapsed chronic lymphocytic leukemia were treated with genetically engineered versions of their own T cells. The treatment has now also been used with promising results to treat children with refractory acute lymphoblastic leukemia and adults with refractory lymphoma. CTL019, the CAR T-cell developed in the June laboratory, was the first gene therapy to be approved by the U.S. Food and Drug Administration in August 2017. Dr. June has published more than 400 manuscripts and is

the recipient of numerous prizes and honors, including the Karnofsky Prize from the American Society of Clinical Oncology and a lifetime achievement award from the Leukemia and Lymphoma Society. He is an elected member of the National Academy of Medicine.

Story C. Landis, PhD, is Scientist Emeritus at the National Institute of Neurological Disorders and Stroke (NINDS). She created the Department of Neurosciences at Case Western Reserve University School of Medicine, which achieved an international reputation for excellence. Dr. Landis joined NINDS in 1995 as Scientific Director. She re-engineered the Institute's intramural research program and fostered a trans-NIH neuroscience community that led to the construction of the Porter Neuroscience Building. From 2003-2014, she served as the Director of NINDS, overseeing an annual budget of \$1.6 billion that supported research by investigators in its intramural program and public and private institutions across the country. Together with the National Institute of Mental Health and National Institute on Aging directors, she co-chaired the NIH Blueprint for Neuroscience Research, a roadmap-like effort to support trans-NIH brain research activities. In 2013-2014, she and Dr. Tom Insel played a key role in launching the NIH BRAIN Initiative. Throughout her research career, Dr. Landis has made fundamental contributions to the understanding of how functionally appropriate synapses form during development and the role of neurotrophins in the peripheral nervous system. She is an elected fellow of the Academy of Arts and Sciences and the American Association for the Advancement of Science; and an elected member of the National Academy of Medicine. In 2015, she received the Ralph W. Gerard Prize from the Society of Neuroscience for outstanding contributions to neuroscience.

Douglas R. Lowy, MD, is the Deputy Director of the National Cancer Institute (NCI) of the National Institutes of Health (NIH) since 2010. A cancer researcher for more than 40 years, Dr. Lowy received the National Medal of Technology and Innovation from President Obama in 2014 for his research that led to the development of the human papillomavirus (HPV) vaccine. As chief of the Laboratory of Cellular Oncology in the Center for Cancer Research at NCI, Lowy's research includes the biology of papillo-maviruses and the regulation of normal and neoplastic growth. His laboratory, in close collaboration with John T. Schiller, PhD, was involved in the initial development, characterization, and clinical testing of the preventive virus-like particle-based HPV vaccines that are now used in the three U.S. Food and Drug Administration-approved HPV vaccines. Dr. Lowy is an elected member of the National Academy of Sciences and

National Academy of Medicine. For their pioneering work, Drs. Lowy and Schiller have received numerous honors in addition to the National Medal, including the Federal Employee of the Year Award in 2007 from the Partnership for Public Service, the 2011 Albert B. Sabin Gold Medal Award, and the 2017 Lasker-DeBakey Clinical Medical Research Award.

Elaine R. Mardis, PhD, is Co-Executive Director of the Institute for Genomic Medicine at Nationwide Children's Hospital and Professor of Pediatrics at the Ohio State University College of Medicine. Dr. Mardis was a senior research scientist for four years at BioRad Laboratories and joined the faculty at Washington University School of Medicine in 1993, served as co-Director of the McDonnell Genome Institute since 2002, and was named the Robert E. and Louise F. Dunn Distinguished Professor of Medicine in 2014. Her research interests focus on the application of next-generation sequencing to characterize cancer genomes and transcriptomes, and to support therapeutic decision-making. Dr. Mardis' translational research efforts devise sequencing-based diagnostics, decision-support tools and databases, and the use of genomics to design personalized cancer vaccines.

J. Michael McGinnis, MD, MA, MPP, is a physician and epidemiologist and has been an active front-line participant for more than four decades in national and international health policy and programs. He is now a Senior Scholar at the National Academy of Medicine (NAM), NAM Leonard D. Schaeffer Executive Officer, and Executive Director of the NAM Leadership Consortium for a Value & Science-Driven Health System. He is also an elected member of the NAM.

Lee N. Newcomer, MD, MHA, spends his time creating new approaches to make cancer care more effective and affordable. He utilizes expertise in medical oncology, health plan strategy and operations, health services research, finance, and communications to find disruptive methods for improved care of cancer patients. The majority of his career was with UnitedHealth Group, where he was their Chief Medical Officer with responsibilities for clinical services, Medicare, and Medicaid (1991-2001). Dr. Newcomer focused his later work on the development of performance measures and incentives for the improvement of clinical care and returned in 2006 to lead an initiative combining clinical, financial, and program management experts to focus on cancer care. This team was the first to complete an episode payment program for cancer treatment and it has built the only commercial database combining clinical and claims

information for cancer patients. Prior to his work at UnitedHealth Group, Dr. Newcomer practiced medical oncology for nine years in Minneapolis, MN and Tulsa, OK. He served as the Medical Director for Cigna Healthcare in Kansas City, and he was a founding executive of Vivius, a consumer directed venture that allowed consumers to create their own personalized health plans. Dr. Newcomer is a former Chairman of Park Nicollet Health Services (HealthPartners), an integrated system of physicians and hospitals based in Minnesota with national recognition for its leadership in quality, safety, and cost effectiveness.

John M. O'Brien, PharmD, is Advisor to the Secretary and Deputy Assistant Secretary for Health Policy at the U.S. Department of Health and Human Services (HHS). Dr. O'Brien joined HHS from CareFirst BlueCross BlueShield. As Vice President of Public Policy, he represented CareFirst and advised its leadership on federal and state policy, led internal research and external program evaluations, and served as an internal expert on payment policy and delivery system reform. He has also worked at the Centers for Medicare and Medicaid Services, the Notre Dame of Maryland University College of Pharmacy, and pharmacy and pharmaceutical organizations.

Kenneth Offit, MD, MPH, is Chief of the Clinical Genetics Service at Memorial Sloan Kettering Cancer Center, where he holds the Niehaus Chair in Inherited Cancer Genomics. He is a member of the Program in Cancer Biology and Genetics at the Sloan Kettering Institute, and a Professor of Medicine and Public Health at the Weill College of Medicine of Cornell University. Dr. Offit's early scientific work focused on description of molecular defects in human lymphoma. In 1996, his laboratory team discovered the most common genetic mutation in BRCA2 associated with inherited breast and ovarian cancer occurring among Jews of European ancestry; and his group played a leading role in the discovery of other cancer-causing mutations in this same population. His laboratory led the first genome-wide association study of BRCA2 breast cancer. Dr Offit's group also discovered or described recurrent mutations causing increased risk for colon and prostate cancer and his group described two genetic syndromes of familial childhood lymphoblastic leukemia associated with inherited PAXS and ETV6 mutations. He is currently using next generation sequencing to define genomic markers of risk for leukemia, lymphoma, breast, ovarian, colon, and prostate cancer. Dr. Offit has authored over 400 papers and, in 2013, was honored with the American Society of Clinical Oncology-American Cancer Society award for his work in cancer

prevention. He has served on the Board of Scientific Counselors of the U.S. National Cancer Institute, the Evaluation of Genomic Applications in Practice and Prevention Working Group of the U.S. Centers for Disease Control, and is co-Chair of the Hereditary Cancer Working Group of the ClinGen initiative of the National Human Genome Research Institute. Dr. Offit is an elected member of the National Academy of Medicine.

Kornelia Polyak, MD, PhD, is a Professor of Medicine at Dana-Farber Cancer Institute at Harvard Medical School and is an internationally recognized leader in the breast cancer field. Her laboratory is dedicated to the molecular analysis of human breast cancer with the goal of improving the clinical management of breast cancer patients. Dr. Polyak's lab has devoted much effort to develop new ways to study tumors as a whole and to apply interdisciplinary approaches. Using these methods, her lab has been at the forefront of studies analyzing purified cell populations from normal and neoplastic human breast tissue at genomic scale and in situ at single cell level and to apply mathematical and ecological models for the better understanding of breast tumor evolution. Dr. Polyak has also been successful with the clinical translation of her findings, including the testing of efficacy of JAK2 and BET bromodomain inhibitors for the treatment of triple negative breast cancer in clinical trials. She has received numerous awards including the Paul Marks Prize for Cancer Research (2011), the American Association for Cancer Research Outstanding Investigator Award for Breast Cancer Research (2012), the Rosalind Franklin Award (2016) and the National Cancer Institute's Outstanding Investigator award (2015).

Antoni Ribas, MD, PhD, is Professor of Medicine, Professor of Surgery, and Professor of Molecular and Medical Pharmacology at the University of California, Los Angeles (UCLA), Director of the Tumor Immunology Program at the Jonsson Comprehensive Cancer Center, Director of the Parker Institute for Cancer Immunotherapy Center at UCLA, and Chair of the Melanoma Committee at Southwest Oncology Group (SWOG). Dr. Ribas is a physician-scientist who conducts laboratory and clinical research in malignant melanoma, focusing on gene engineered T cells, PD-1 blockade and BRAF targeted therapies. His National Cancer Institute (NCI), State of California, and private foundation-supported research laboratory develops models of disease to test new therapeutic options, studies mechanisms of action of treatments in patients, and the molecular mechanisms of therapy resistance. He is an elected member of the American Society of Clinical Investigation, has a Doctor Honoris

Causa from the University of Buenos Aires, is the recipient of an American Association for Cancer Research Richard and Hinda Rosenthal Memorial Award, and a NCI Outstanding Investigator Award.

Charles L. Sawyers, MD, is a Howard Hughes Medical Institute Investigator and Chair of the Human Oncology and Pathogenesis Program at Memorial Sloan Kettering Cancer Center. He studies mechanisms of cancer drug resistance with an eye toward developing novel therapies. Dr. Sawyers co-discovered the antiandrogen drug enzalutamide that was approved by the Food and Drug Administration (2012) for treatment of advanced prostate cancer. He shared the 2009 Lasker-DeBakey Clinical Medical Research Award for the development of the ABL kinase inhibitor imatinib for patients with chronic myeloid leukemia and the second generation ABL inhibitor dasatinib to overcome imatinib resistance. Dr. Sawyer received the 2013 Breakthrough Prize in Life Sciences, the 2013 Taubman Prize for Excellence in Translational Medical Science, and the 2015 BBVA Knowledge Award in Biomedicine. He is an elected member of the National Academy of Sciences, and the National Academy of Medicine, and is an elected fellow of the American Academy of Arts and Sciences. He is past President of the American Association for Cancer Research (AACR) and the American Society of Clinical Investigation (ASCI), was appointed to the National Cancer Advisory Board by President Obama, and has served on the Board of Directors of Novartis since 2013. He also serves as Steering Committee Chair of AACR Project GENIE, an international consortium of cancer centers who share genomic and clinical data from patients treated at their respective clinical sites.

Kevan M. Shokat, PhD, is an Investigator of the Howard Hughes Medical Institute and Professor in the Department of Cellular and Molecular Pharmacology, where he also served as Department Chair (2010-2014) at the University of California, San Francisco. He is also Professor in the Department of Chemistry at the University of California, Berkeley. Dr. Shokat is a pioneer in the development of chemical methods for investigating cellular signal transduction pathways—with a particular focus on protein kinases and lipid kinases. He uses a combination of chemical synthesis and protein engineering to create uniquely traceable and regulatable kinases, allowing the function of over 100 different kinases to be uncovered across all disease areas including oncology, metabolism, and infectious disease. He has received numerous awards, including being named a fellow of several prestigious research foundations, including the

Pew Foundation, Searle Foundation, Sloan Foundation, Glaxo-Wellcome Foundation, and the Cotrell Foundation. He also received the Eli Lilly Award, given to the most promising biological chemist in the country under the age of 37. He was elected into National Academy of Sciences, National Academy of Medicine, and the American Academy of Arts and Sciences. Dr. Shokat has successfully commercialized discoveries from his laboratory, including his development of chemical genetic tools for tracking and validating protein kinase drug targets, which is licensed by Artemis-Taconic for target validation of kinases in multiple disease areas. In 2007, he co-founded Intellikine, Inc., to commercialize a series of PI3K and mTOR small molecule inhibitors for cancer and inflammatory disease. In four years, Intellikine has progressed three compounds into Phase I including INK1197 (PI3K δ)-now partnered with Infinity Pharmaceuticals, INK128 (mTOR), and INK1117 (PI3K α). In 2013, he co-founded Araxes Pharmaceuticals in La Jolla, CA and eFFECTOR Pharmaceuticals in San Diego, CA.

Cornelia Ulrich, MS, PhD, is Director of the Comprehensive Cancer Center at Huntsman Cancer Institute (HCI). She is also a Jon M. and Karen Huntsman Presidential Professor in Cancer Research in the Department of Population Health Sciences at the University of Utah. As Cancer Center Director, Dr. Ulrich oversees HCI's academic consortium of nearly 200 cancer research teams. She is a cancer epidemiologist whose research focuses on lifestyle and biologic factors in cancer prevention and cancer prognosis. She leads an interdisciplinary team of scientists on research related to the prevention, epidemiology, prognosis, and survivorship of cancer and is also Principal Investigator of the HCI of the Total Cancer Care Protocol in the ORIEN network of cancer centers. Dr. Ulrich's lab has performed landmark research on colorectal cancer prevention and survivorship, including studies on biomarkers, aspirin, and connections between obesity and physical activity in cancer prevention and survivorship. She is the author of more than 350 publications and served as principal investigator on more than 20 competitively funded research studies and clinical trials. Dr. Ulrich is an elected member of the European Academy of Cancer Sciences and serves on numerous editorial boards and advisory boards for agencies, such as the National Institutes of Health, National Academies of Sciences and Medicine, International Agency for Research on Cancer and the American Association of Cancer Research.

Speakers' Conflict of Interest Disclosures

The Honorable Alex Azar, II, JD

None noted.

Norman R. Augustine, MSE

None noted.

Peter B. Bach, MD, MAPP

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Salary/Consultant Fee–MSK, Foundation Medicine, Grail
Honorarium/Expenses–Yale, Bipartisan Congressional Health Policy

Mary C. Beckerle, PhD

Salary/Consultant Fee/Stocks/Bonds–Johnson & Johnson (Board of
Directors)

Gail K. Boudreaux, MBA

None noted.

Otis W. Brawley, MD, MACP, FASCO, FACE

None noted.

The Honorable William Cassidy, MD

None noted.

Kenneth C. Frazier, JD

None noted.

Levi A. Garraway, MD, PhD

Salary/Consultant Fee–Eli Lilly and Company (employee); Foundation
Medicine and Tango Therapeutics (co-founder and equity holder in both
companies)

Laurie H. Glimcher, MD

Stocks/Bonds–GSK plc, Waters Corp., Quentis Therapeutic.

Ernest Hawk, MD, MPH

None noted.

Carl June, MD

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Stocks/Bonds–Tmunity Therapeutics

Story C. Landis, PhD

Honorarium/Expenses–Biogen

Douglas R. Lowy, MD

None noted.

Elaine R. Mardis, PhD

None noted.

Lee N. Newcomer, MD, MHA

Salary/Consultant Fee/Stocks/Bonds–United Healthcare

John M. O'Brien, PharmD

None noted.

Kenneth Offit, MD, MPH

None noted.

Kornelia Polyak, MD, PhD

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Antoni Ribas, MD, PhD

Stocks/Bonds–Advaxis, Arcus, Bioncotech, Compugen, CytomX, Five Prime, FLX-Bio, ImaginAb, Isoplexis, Kite-Gilead, Merus, Rgenix, Lutris, PACT, Tango

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Charles L. Sawyers, MD

Grant/Research Support/Stocks/Bonds/Honorarium/Expenses–Names can be provided upon request.

Salary/Consultant Fees– Novartis, Board of Directors Member

Kevan M. Shokat, PhD

Salary/Consultant Fee–Araxes/Wellspring Biosciences, Revolution Medicines, Genentech/Roche, Blade Therapeutics, Denali, Qulab, Janssen, Merck, Takeda

Stocks/Bonds–Araxes/Wellspring Biosciences, Kura Oncology, eFFECTOR Therapeutics, Revolution Medicines, Genentech/Roche, Blade Therapeutics, Mitokinin, Dice Erasca, Denali, Qulab

Honorarium/Expenses–Takeda, Araxes/Wellspring Biosciences, Kura Oncology, eFFECTOR Therapeutics, Revolution Medicines, Genentech/Roche, Blade Therapeutics, Dice, Erasca, Denali, Merck

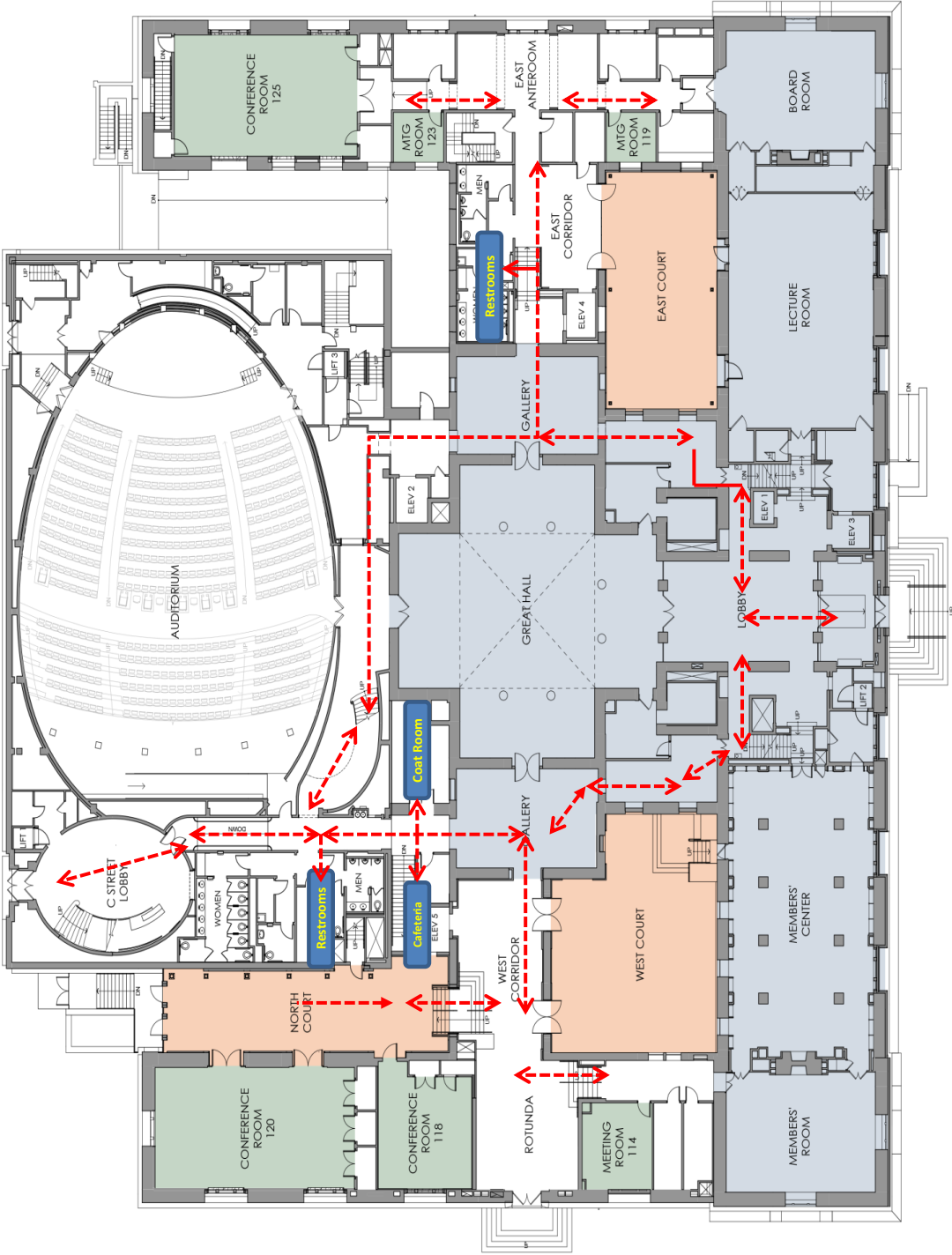
Cornelia Ulrich, MS, PhD

None noted.

Notes

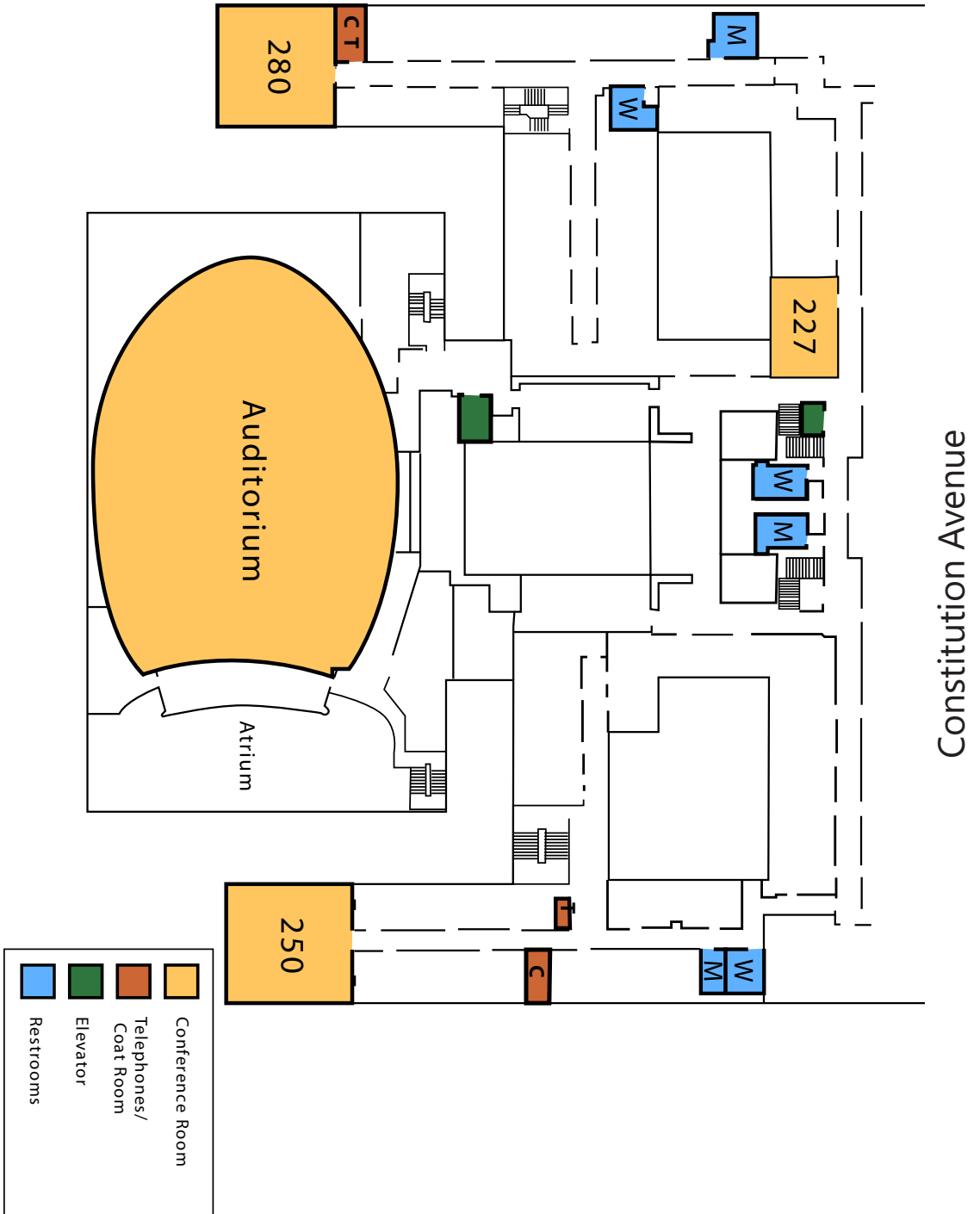
Notes

Building Map—First Floor



Constitution Avenue

Building Map—Second Floor



General Information

Attendees must wear badges at all times. Badges are available at the registration desk in the East Court.

Annual Meeting registration fee: There is a \$150 registration fee to attend the NAM Annual Meeting. The registration fee includes lunch and the Annual Reception. Attendance at the President's Forum only (not including preceding panels, lunch, or reception) is available for a special rate of \$15. See the cashier at the registration desk to register.

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