2021 – 2022


Melanie Mitchell (Santa Fe Institute) *Why AI Is Harder Than We Think.* January 21, 2022.

Charles Adler (St. Mary’s College of Maryland) *Where Is the Science in All That Fiction?* January 14, 2022.


Juan Maldacena (Institute for Advanced Study, School of Natural Sciences) *Black Holes and the Structure of Spacetime.* December 17, 2021.


Ken Falke (Founder/Chairman, Boulder Crest Foundation) *Struggle Well, Thriving in the Aftermath of Trauma.* November 19, 2021.


Chris Fisher (Founder/Co-director of the Earth Archive and Professor, Colorado State Univ.) *The Case for an Earth Archive.* October 1, 2021.

**2020 – 2021**

David Bader (New Jersey Inst. of Technology) *The International Race to Exascale Supercomputing.* September 24, 2021.


Alison Criscitiello (Univ. of Alberta, Exec. Dir. Canadian Ice Core Lab) *Stories From the Ice: Perspectives From New Canadian Arctic Ice Cores.* September 3, 2021.


Jim Bellingham (Executive Director, Institute for Assured Autonomy, Johns Hopkins Univ.) *Autonomy at the Edge.* May 21, 2021.


Nicholas Pyenson (Smithsonian Institution)  *Spying on Whales.*  April 9, 2021.


Paris R. von Lockette (Penn State Univ.)  *Magneto-Active Composites, Multi-Field Processing, and a Quest for a Universal 3D Printer.*  March 26, 2021.


David W. Jordan (Case Western Reserve Univ.)  *State of the Art Magnetic Resonance Imaging in Medicine.*  March 5, 2021.


Jamie Holmes (Author and Future Tense Fellow, New America)  *Section T, the Smart Fuse, and the Founding of APL.*  January 15, 2021.


Mike Dahm (JHU/APL)  *A Virtual Tour of China’s Artificial Islands in the South China Sea.*  November 6, 2020.


2019 – 2020

Peter W. Singer  (Senior Strategic Fellow, New America Foundation)  *Burn-In: The Real Robotics Revolution.*  September 18, 2020.


Mark Kortepeter, MD, MPH  (Univ. of Nebraska Medical Center)  *Tales From Inside the Hot Zone.*  June 26, 2020.


Martha Jones  (Johns Hopkins Univ.)  *Vanguard: What if Black Women Have Always Led the Movement for Women’s Suffrage.*  February 27, 2020.


David Sing  (Bloomberg Distinguished Prof. of Astrophysics, Johns Hopkins Univ.)  Hubble’s Panchromatic Comparative View of Exoplanet Atmospheres. December 20, 2019.


John O’Hara  (NSA [ret.])  Analysis of Soviet Space and Missile Programs During the Early Cold War. December 6, 2019.


Toshi Yoshihara  (Center for Strategic and Budgetary Analysis (CSBA))  Chinese Seapower. November 15, 2019.


Dr. Etta Pisano, M.D., FACR  (Beth Israel Deaconess Medical Center)  The Tomosynthesis Mammographic Imaging Screening Trial (TMIST) – A Bridge to Personalized Breast Cancer Screening. October 16, 2019.

Andrés Muñoz-Jaramillo  (Southwest Research Institute)  *How the Hemispheric Polar Field Reversal Sets the Timing and Shape of the Solar Cycle.*  October 9, 2019.


**2018 – 2019**

Mojie Crigler  (END Fund)  *Under the Big Tree: Extraordinary Stories From the Movement to End Neglected Tropical Diseases.*  September 27, 2019.

CAPT Mercedes Benitez-McCrary, Dr.HSc, MA CCC-SLP  (Chief Professional Officer - Chief Therapist Officer, United States Public Health Service)  "Puentes Y Verjas" – *Hispanic Health.*  September 20, 2019.

Eric Haseltine  (Analyst and Consultant)  *The Spy in Moscow Station: A Counterspy's Hunt for a Deadly Cold War Threat.*  September 13, 2019.

Muhammad Fraser-Rahim  (Quilliam International)  *Alternative Narratives to Violent Extremism: Case Study Examples on Rehabilitation in the US and Overseas.*  September 4, 2019.


Jeffrey Kosseff  (U.S. Naval Academy)  *The Twenty-Six Words That Created the Internet.*  August 23, 2019.

Ernie Snowden  (U.S. Navy (ret.))  *Winged Brothers: Naval Aviation as Lived by Ernest and Macon Snowden.*  August 16, 2019.

Mr. Douglas Loverro  (Deputy Assistant Secretary of Defense, Space Policy (Ret.))  *The History of Space in National Security.*  August 5, 2019.


John Astin  (Theatre Program Director, JHU Homewood)  *Knowledge and Wisdom.*  June 14, 2019.
Charles F. Delwiche  (Univ. of Maryland College Park)  Social Diversity in Humans and Biological Diversity in Algae: Implications for Resilience of Communities.  June 7, 2019.


Joseph Blau  (Naval Postgraduate School)  Measurements and Analysis of Ship-Induced Optical Turbulence on an Arleigh Burke Class Destroyer.  April 26, 2019.

Jeff Suzuki  (Brooklyn College)  Patently Mathematical, or How I Lost a Billion Dollars in My Spare Time.  April 19, 2019.


Dr. John P. Hussman  (Hussman Institute for Autism)  The Neurobiology of Autism and Implications for Presuming Competence.  April 10, 2019.


Capt. James Howe  (U.S. Coast Guard (ret.))  Securing the Border: Lessons Learned From the Maritime War on Drugs.  March 15, 2019.


The Honorable Catherine Pugh (Mayor of Baltimore)  *Black History Month Keynote Address*. February 11, 2019.

Lester Spence (Johns Hopkins University)  *A Realist Afrofuturist Account of Geopolitical Change*. February 8, 2019.


John O’Hara (NSA (Ret.))  *Space Age Intelligence ... Cold War to Hot War*. January 25, 2019.


Harlan Ullman (CNIGuard Ltd. and The Killowen Group)  *Anatomy of Success: Why a Brains-Based Approach to Strategic Thinking Can Win Wars*. October 19, 2018.

Stephen A. Bourque (School of Advanced Military Studies, Fort Leavenworth)  *Challenging Traditional Narratives: Writing Beyond the Beach*. October 16, 2018.

Yarieska M. Collado-Vega (NASA Goddard Space Flight Center) *Space Weather Research and Forecasting Capabilities at the NASA Community Coordinated Modeling Center (CCMC).* October 5, 2018.

**2017 – 2018**


Jeff Hawkins (Numenta Inc.) *Location, Location, Location: A Framework for Intelligence and Cortical Computation.* September 21, 2018.

Scott Hoschar and Beau Backus (Middle Atlantic Area Frequency Coordination Office and NOAA National Environmental Satellite, Data, & Information Service) *Defense of the Electro-Magnetic Spectrum.* September 14, 2018.


David Priess (Author and Commentator) *The President’s Book of Secrets.* August 24, 2018.

Dennis Conti (Chair, AAVSO Exoplanet Section) *Amateur Astronomer Participation in the TESS Exoplanet Mission.* August 17, 2018.


David Brin (Author and Futurist) *Opportunities, Dangers and Destiny in the Solar System ... and Beyond.* June 8, 2018.


Elyse Zorn Karlin (Journalist, Museum Curator, and Art Historian) *Out of This World! Jewelry in the Space Age.* May 25, 2018.


Mansur Hasib  (Univ. of Maryland, Univ. College)  Cybersecurity Leadership: The Key to Organizational Success.  May 4, 2018.


Todd Harrison  (Center for Strategic and International Studies (CSIS))  Escalation and Deterrence in the Second Space Age.  April 13, 2018.


Howard Eisner  (Professor Emeritus, George Washington Univ.)  Thinking Outside the Box, With Examples and APL-related Stories.  February 9, 2018.


Catherine Asaro (Author and SIGMA member)  *Science Fiction Goes to Washington*. January 5, 2018.


Robert Fischell (Fischell Biomedical)  *APL Space Technology Leads to Biomedical Devices*. December 8, 2017.


Adam Ruben (Science Channel, "Outrageous Acts of Science")  *Public Perception of Science: Lessons From a Dead Sheep*. October 27, 2017.

William Hogan (Founder and Past Executive Director of California’s Innovation Hub for Defense, Energy and Aerospace (iDEA Hub))  *From Innovation to Actualization: A Perspective From Silicon Valley*. October 20, 2017.

John Krakauer (Johns Hopkins School of Medicine)  *What Are We Asking When We Ask How the Brain Works*. October 13, 2017.


**2016 – 2017**


Max Bergmann (Senior Fellow, Center for American Progress)  *Rethinking Russian Active Measures*. September 1, 2017.


Dean Hamer (Scientist Emeritus, National Institutes of Health; Co-Producer and Director, “A Place in the Middle”)  Queer Science.  June 23, 2017.


Michael Bourke (Chief, Behavioral Analysis Unit, United States Marshals Service)  The Psychology Behind Child Sex Offenders.  May 12, 2017.


Gary Ackerman  (National Consortium for the Study of Terrorism and Responses to Terrorism (START) at Univ. of Maryland)  More Bang for the Buck?: Assessing the Threat of Terrorists and Emerging Technologies.  March 3, 2017.

Freeman Hrabowski  (President, University of Maryland Baltimore County)  Holding Fast to Dreams: Creating a Climate of Success for All Students.  February 24, 2017.


Donald M. Goldstein  (Emeritus Professor, Univ. of Pittsburgh)  Pearl Harbor in the Perspective of 75 Years.  November 30, 2016.


**Bob Bailey** (Behavior by Bailey) *A Brief History and Some Applications of Terrestrial, Aerial, and Aquatic Trained Animal Behavior Systems.* November 4, 2016.


**James Ira Thorpe** (NASA Goddard Space Flight Center) *LISA Pathfinder and the Road to Space-Based Gravitational Wave Observatories.* October 7, 2016.

**2015 – 2016**


**Jose C. Florez MD PhD** (Massachusetts General Hospital) *Clinical Translation of Genetic Predictors for Type 2 Diabetes.* September 16, 2016.

**Paul Jaffe** (Naval Research Laboratory) *The Opportunity of Space Solar.* September 9, 2016.

**Michael D. Griffin** (Chairman and CEO, Schafer Corp.) *Delta 180: Origins and Significance in Missile Defense and Beyond.* September 8, 2016.


**Franco Einaudi** (Director, Earth Sciences Division Ret., NASA Goddard) *Climate Change and Its Challenges.* August 25, 2016.

**Michael A. Caruso** (Independent Consultant) *EMP and the Concern for Data Center Protection.* July 15, 2016.


Charles Clark  (Joint Quantum Institute, Univ. of Maryland and National Institute of Standards and Technology)  *How Quantum Mechanics Cracked the Nuclear Code.*  June 3, 2016.


John C. Mather  (NASA Goddard Space Flight Center, 2006 Nobel Prize for Physics)  *Beneficial Catastrophes From the Big Bang to the End: How Far Can We Go?*  April 26, 2016.

Shawn Usman  (National Geospatial Intelligence Agency)  *The Antineutrino Global Map (AGM).*  April 22, 2016.


William Jones  (Princeton University)  *The Universe as a Lab for Fundamental Physics: Results From Spider and Future Long-Duration Stratospheric Balloon Missions.*  April 1, 2016.


Kimberly Scott  (Arizona State University)  *Becoming Our Selves in This Digital Age.*  March 21, 2016.


Philip Mudd  (Consultant; Central Intelligence Agency Ret.)  *The HEAD Game: Become a High Efficiency Analytic Decision Maker.*  March 4, 2016.


LTG Vincent Stewart  (U.S. Marine Corps; Director, Defense Intelligence Agency)  *An Evolving Defense Intelligence Enterprise.*  February 5, 2016.


Harlan Ullman  (The Killowen Group)  *A Brains-Based Approach to Strategic Thinking.*  January 15, 2016.


Xuanhong Cheng and James C. M. Hwang  (Lehigh University)  *Broadband Electrical Detection of Individual Biological Cells.*  December 11, 2015.


David Goldstein  (Naval Research Laboratory)  *Acoustic Black Holes in the Laboratory.*  November 20, 2015.


Charles Neimeyer  (Author)  *War in the Chesapeake: The British Campaigns to Control the Bay, 1813-1814.*  October 26, 2015.

David McQueeney  (IBM Research)  *The IBM Global Technology Outlook.*  October 23, 2015.


**Pablo Iglesias** (JHU ECE Cellular Signaling and Control Laboratory)  *Biased Excitable Networks: How Cells Direct Motion in Response to Gradients.*  October 2, 2015.

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**2014 – 2015**


Joel S. Wit  (U.S.-Korea Institute at JHU School of Advanced International Studies)  *Game Change on the Peninsula? Thinking About North Korea’s Nuclear Futures.*  April 24, 2015.


Robert Ehrlich  (George Mason Univ.)  *The Hunt for the Tachyon.*  April 10, 2015.


John Steinbruner  (Director, Center for International and Security Studies at Maryland (CISSM))  *Anticipating Climate Change Mitigation.*  January 23, 2015.


Ben Shneiderman (Univ. of Maryland) Information Visualization for Knowledge Discovery: Big Insights From Big Data. October 10, 2014.


2013 – 2014


**Anne Speckhard** (Georgetown Univ. Medical School) *Talking to Terrorists: Understanding the Psycho-Social Motivations of Militant Jihadi Terrorists.* April 11, 2014.


**David Robarge** (Central Intelligence Agency) *Archangel: CIA’s Supersonic a-12 Reconnaissance Aircraft.* February 21, 2014.


**Stamatios M. Krimigis** (JHU/APL) *Voyager’s Odyssey: From Earth to the Galaxy in Thirty-Five Years.* January 17, 2014.

**Jeff J. S. Black** (St. John’s College) *Privacy, Ancient and Modern.* January 8, 2014.

**Alfredo Quiñones-Hinojosa** (Johns Hopkins Medical Institutions) *Engines of Brain Cancer Migration.* December 11, 2013.

**Jerry Buckley, Margo Tank, and Steve Bisbee** (BuckleySandler LLC and eOriginal) *Electronic Signatures and Records: The Intersection of Law and Technology.* December 6, 2013.


**2012 – 2013**


Nergis Mavalvala (Massachusetts Inst. of Technology) *Beyond the Quantum Limit in Gravitational Wave Detectors.* June 28, 2013.


Vinton G. Cerf (Google) *Re-Inventing the Internet.* April 29, 2013.

Carey M. Lisse (JHU/APL) *Prospects for Life and Human Habitability Around Nearby Stars: Many Possible Homes for Our Elder (?) Race, but the Neighbors Are Likely Bacteria.* April 26, 2013.


2011 – 2012


Steven Chu  (Secretary of Energy, 1997 Nobel Prize for Physics)  America’s Role in Meeting the Energy Challenge. June 1, 2012.


Scott M. Tyson (Author)  Pardon Me, but Your Paradoxes Are Showing!  March 30, 2012.


Ayanna Howard (Georgia Institute of Technology)  SnoMotes: Robotic Scientific Explorers for Understanding Climate Change.  February 17, 2012.


2010 – 2011


Larry Robinson (National Oceanic and Atmospheric Administration) *Role of NOAA After the BP Deepwater Horizon Oil Spill*. June 3, 2011.

Rama Chellappa (Univ. of Maryland) *Compressive Sensing for Computer Vision*. May 24, 2011.

David Harriman (Author) *Do Scientists Need Philosophy?* May 13, 2011.

David Alberts (Office of the Assistant Secretary of Defense (Networks and Information Integration) and DoD Chief Information Officer) *The Agility Imperative*. April 22, 2011.

Joe Rosen (George Washington Univ.) *Other Universes*. April 15, 2011.

Dennis McCarthy (U.S. Naval Observatory) *Evolution of Timekeeping*. April 8, 2011.

Peter Pronovost (Johns Hopkins Medical Institutions) *Safe Patients, Smart Hospitals*. April 1, 2011.


Bob Buus (Former Bell Labs) *The Forefathers of Radio*. February 18, 2011.

Richard Danzig (Former Secretary of the Navy) *Bioterrorism: How Should We Assess the Risk, and How Should We Prepare for It?* February 11, 2011.

Charles L. Bennett (JHU Dept. of Physics and Astronomy) *Big Bang for the Buck: Cosmology From WMAP*. January 14, 2011.


Michael Greenberger  (Univ. of Maryland)  Our Economic Insecurity and Its Relationship to the Overall Security of the Nation. November 12, 2010.


2009 – 2010


Stephen C. Schimpff (Univ. of Maryland Medical Center) The Future of Medicine – Megatrends in Medical Science and in Healthcare Delivery. March 12, 2010.

Ronald Marcell (Immigration and Customs Enforcement) Undercover Operations in Counter-Proliferation Investigations. March 5, 2010.


George F. Riley (Georgia Institute of Technology) Network Simulation With NS3. October 23, 2009.

2008 – 2009


Michael C. MacCracken (Climate Institute) *Climate Change – A Challenge We Must Address.* June 5, 2009.


George Helfrich (JHU/APL Ret.) *APL and the U.S. Navy in the Deserts of New Mexico.* April 24, 2009.


James C. M. Hwang (Lehigh Univ.) *RF MEMS Technology for Space Applications.* March 27, 2009.


Sudip Bose (Advocate Christ Medical Center) *On Call in Iraq.* March 6, 2009.

Reuben Pitts (NSWC Dahlgren Ret.) *The U.S.S. Vincennes Incident – The Data.* February 27, 2009.


Denise Gray (General Motors Engineering) *Reinventing GM and the Automobile: From Batteries to Sustainability.* February 13, 2009.


Robin Wright (Journalist) *The Future of the Middle East.* October 17, 2008.

2007 – 2008


Alan Brandt  (JHU/APL)  
**Waves, Fish, and Submarines: Thirty Years of Hydrodynamics Research at APL.** April 25, 2008.

Peter Thomson  (Author)  
**Sacred Sea: A Journey to Lake Baikal.** April 11, 2008.

Mattias Mountain  (Space Telescope Science Institute)  
**The Hubble, the James Webb Space Telescope, and Looking to the Future: Space Science at a Cross Road?** April 4, 2008.

Steven Benner  (Foundation for Applied Molecular Evolution)  
**Unconventional Forms of Life and Life Detection.** April 2, 2008.

Jo Anne B. Barnhart  (Former Commissioner, Social Security Administration)  
**Challenges Facing Social Security.** March 14, 2008.

James Turner  (National Institute of Standards and Technology)  

Col. Michael A. Shupp  (U.S. Marine Corps, Legislative Assistant for the Chairman of the Joint Chiefs of Staff)  
**The Battle of Falluja.** February 15, 2008.

George Bibel  (Univ. of North Dakota)  
**Beyond the Black Box: The Forensics of Airplane Crashes.** February 1, 2008.

Robert Strom  (Univ. of Arizona)  
**Global Warming and the Human Condition.** January 18, 2008.

Sam Yee  (JHU/APL)  

Spencer Wells  (National Geographic Society)  

Sten Odenwald  (NASA Goddard Space Flight Center)  
**The Superstorm of 1859: Learning From the Past to Anticipate Future Consequences.** December 7, 2007.

2007 Hart Prize Winners  (JHU/APL)  

Bradley Layton  (Drexel Univ.)  
**Bionanotechnology and Mechanoevolution.** November 16, 2007.

Sky Alibhai and Zoe Jewell  (WildTrack)  

David Mindell  (Massachusetts Inst. of Technology)  

Ernest A. Seglie  (Office of the Secretary of Defense, Director of Operational Test and Evaluation)  

Juan Maldacena  (Institute for Advanced Study)  QCD, Strings, and Black Holes: A Duality Between Gravity and Field Theory. October 5, 2007.

2006 – 2007


Aravinda Chakravarti  (JHU School of Medicine)  Genes for Common, Chronic Diseases. May 18, 2007.


Anna Escobedo Cabral (U.S. Treasurer)  *Hispanic Heritage Month Colloquium.* October 11, 2006.

2005 – 2006


Nathaniel Fick (Former Captain, U.S. Marine Corps)  *The Wars in Afghanistan and Iraq: A Junior Officer’s Perspective on What We’ve Learned and Where We’re Going.* May 12, 2006.

Barry Rubin (Global Research in International Affairs Center)  *The Arab Struggle for Democracy in the Middle East.* May 5, 2006.


Woodrow Whiltof Jr. (Director, NASA Glenn Research Center) *Breakthrough Technologies That Enable Space Exploration.* February 17, 2006.


Bruce A. Dale (National Geographic Society) *A Lifetime of BAD Photographs.* December 16, 2005.

Charles Nicholas (Univ. of Maryland, Baltimore County) *Who Wrote This Document?* December 9, 2005.

Steven M. Anlage (Univ. of Maryland, College Park) *Physics and Applications of Negatively-Refracting Electromagnetic Materials.* December 2, 2005.


Thomas P. M. Barnett (Author and Strategic Planner) *Warfighting in the Twenty-First Century.* November 2, 2005.

Kay Jamison (JHU School of Medicine) *Scientific Exuberance.* October 21, 2005.


2004 – 2005


Louise Richardson (Radcliffe Institute for Advanced Study) *Democracy and Counterterrorism: Lessons From the Past.* May 26, 2005.

Norman Polmar (Analyst, Consultant, and Author) *Surprise! U.S. And Western Intelligence and Warning Failures During the Cold War.* May 13, 2005.


Robert E. Gold (JHU/APL) *Defending the Earth From Asteroid Impacts.* April 8, 2005.

Ashley Tellis (Carnegie Endowment for International Peace) *U.S.-India Strategic Relations.* April 1, 2005.


Colin S. Gray (Univ. of Reading, England) *What Do We Know About Future Warfare?* March 16, 2005.


Vincent Vitto (Charles Stark Draper Laboratory)  *The Naval Studies Board and Its Views on Naval Issues.*  February 16, 2005.

Hans M. Mark (Univ. of Texas, Austin)  *Naval Applications of Electro-Magnetic Guns.*  February 11, 2005.


Michael Scheuer (Former Central Intelligence Agency)  *They Still Don’t Get It: The Danger of Ignoring Reality in the War on Terrorism.*  January 20, 2005.


Peter Heller (International Monetary Fund)  *Confronting Long-Term Fiscal Challenges.*  October 29, 2004.


2003 – 2004


**John T. Emmert**  (George Mason Univ. and Naval Research Laboratory)  *Climate Change at the Edge of the Atmosphere: Evidence of Long-Term Thinning.*  April 16, 2004.


**Sunil Khilnani**  (JHU School of Advanced International Studies)  *South Asia on the Edge.*  February 20, 2004.

**Ellis Barksdale**  (Barksdale Solutions)  *E3 = Egypt, Engineering, and Education.*  February 6, 2004.


**2002 – 2003**


George Friedman  (Strategic Forecasting, Inc.)  The Iraq Campaign: An Episode in a War.  September 5, 2003.


2001 – 2002


David W. Jourdan (Nauticos Corp.) The Discovery and Salvage of the Israeli Submarine INS DAKAR. October 26, 2001.


Christopher J. Lobb (Univ. of Maryland) Smaller, Faster, Cheaper: From Transistors to Artificial Microstructures. October 12, 2001.


2000 – 2001


Stephen G. Brush  (Univ. of Maryland, College Park)  *Why Was Relativity Accepted?* October 27, 2000.


1999 – 2000


Claude R. Canizares  (Massachusetts Inst. of Technology)  *First Results From the Chandra X-Ray Observatory.* May 19, 2000.

James W. Head  (Brown Univ.)  *Water on Mars: Recent Results on Oceans and Polar Deposits.* May 12, 2000.


Frank E. McGarry  (Computer Sciences Corp.)  *Attaining Level 5 in the Capability Maturity Model.* February 25, 2000.


Thomas H. Guderjan (St. Mary's Univ.) Blue Creek: An Ancient Maya City. December 10, 1999.


1998 – 1999


Nitish Thakor  (JHU Dept. of Biomedical Engineering)  *Neuroengineering.* March 26, 1999.


Anthony Kossiakoff  (Univ. of Chicago)  *The Role of Molecular Adaptation in Cellular Communication.* February 19, 1999.


Ellen D. Williams  (Univ. of Maryland)  *Fluctuations in Materials Science.* January 22, 1999.


Donald K. Yeomans (Jet Propulsion Laboratory) *The Impact of Comets and Asteroids Upon the Earth.* October 30, 1998.


1997 – 1998


James E. West (Bell Laboratories) *Auralization of Complex Environments.* May 8, 1998.


Richard Fish (Univ. of California, Berkeley) *Designer Resins for Environmental Remediation.* March 20, 1998.


Elizabeth Ofili (Morehouse School of Medicine) *Telemedicine.* February 27, 1998.


Arnold J. Mandell (Emory Univ. and Florida Atlantic Univ.) *Eigenfunction Styles: From Early Beethoven to Late Monk.* February 6, 1998.


Raul Fainchtein (JHU/APL) *Think Small to Improve MRI.* December 5, 1997.


R. Dean Astumian (Univ. of Chicago) *Brownian Motion and Biomolecular Motors.* October 17, 1997.


1996 – 1997


Robin L. Blumberg Selinger (Catholic Univ. of America) *Why Things Bend.* April 25, 1997.


George D. Rose (JHU Dept. of Biophysics and Biophysical Chemistry) *Protein Folding.* April 4, 1997.


Paul Richards (Columbia Univ. Lamont-Doherty Earth Observatory) *The Rotation of Earth’s Inner Core.* January 24, 1997.


Donald J. Williams (JHU/APL) *Galileo’s Arrival at Jupiter: Early Results.* December 6, 1996.
John S. Kauer (Tufts Univ. School of Medicine)  *Odor Encoding by the Olfactory System: From Biology to an Artificial Nose.* November 22, 1996.


Sara A. Solla (AT&T Research Laboratories)  *The Dynamics of Learning From Examples.* October 25, 1996.

Elliot R. McVeigh (JHU Dept. of Biomedical Engineering)  *Magnetic Resonance Imaging (MRI) of the Heart.* October 11, 1996.


1995 – 1996


Joel M. Schnur (Naval Research Laboratory)  *Lipid Tubules: Formation, Characterization, and Applications.* April 26, 1996.

Gerald L. Kulcinski (Univ. of Wisconsin)  *Safe and Clean Energy From the Moon.* April 19, 1996.

Gary H. Posner (JHU Dept. of Chemistry)  *Designer Drugs for Healthier Living.* April 12, 1996.

Richard S. Lindzen (Massachusetts Inst. of Technology)  *Global Warming.* March 29, 1996.

Samuel A. Bowring (Massachusetts Inst. of Technology)  *The Earth’s Early Evolution.* March 22, 1996.


Sylvester J. Gates Jr. (Univ. of Maryland, College Park, Dept. of Physics)  *Superspace: Can You Really Get There From Here?* March 8, 1996.
Robert J. Cotter (JHU Dept. of Pharmacology and Molecular Science)  *Smart Molecular Detectors for Biological Research.*  March 1, 1996.

Donald A. Henderson (JHU School of Public Health and Hygiene)  *New and Emerging Infections.*  February 23, 1996.


Rama Chellappa (Univ. of Maryland, College Park)  *Context-Based Exploitation of Aerial Images.*  December 8, 1995.


Barbara Ryden (Ohio State Univ.)  *The Fate of the Universe.*  October 13, 1995.

1994 – 1995


**E. Donald Elliott**  (Fried, Frank, Harris, Shriver, and Jacobson)  *Rethinking the Role of Science in Risk Evaluation.*  May 19, 1995.


**Michael F. Summers**  (Univ. of Maryland, Baltimore County)  *Structure of HIV-1 Proteins by Nuclear Magnetic Resonance.*  April 21, 1995.


**Adam Frederick Falk**  (JHU Dept. of Physics and Astronomy)  *The Beautiful Bottom Quark.*  March 17, 1995.

**Col. Charles Bolden**  (U.S. Naval Academy)  *The Importance of Space Exploration by Humans.*  March 10, 1995.


**V. Daniel Hunt**  (Technology Research Corp.)  *Quality Management: State of the Practice.*  February 17, 1995.

**Mark J. T. Smith**  (Georgia Inst. of Technology)  *Data Compression for Image and Video Signals.*  February 10, 1995.

**Barry A. Solomon**  (W. R. Grace and Co.)  *Membrane-Based Hybrid Artificial Organs.*  February 3, 1995.


Azriel Rosenfeld  (Univ. of Maryland, College Park)  Perspectives on Computer Vision.  December 9, 1994.


James S. Langer  (Univ. of California, Santa Barbara)  Dynamics of Earthquakes and Fracture.  October 21, 1994.


1993 – 1994


Donald M. Eigler (IBM Almaden Research Center) *Quantum Corrals.* May 6, 1994.


Lawrence Washington (Univ. of Maryland, College Park) *Fermat's Last Theorem.* February 25, 1994.


Catherine C. Fenselau (Univ. of Maryland, Baltimore County) *Biological Applications of Mass Spectrometry.* January 21, 1994.


Joseph Weber (Univ. of Maryland, College Park) *New Approaches to Neutrino Detection.* December 3, 1993.


Thomas P. Hughes (Univ. of Pennsylvania) *Managing Polaris: An Historical Perspective.* November 12, 1993.


Albert Wattenberg (Univ. of Illinois) *The Birth of the Nuclear Age: December 2, 1942.* October 22, 1993.


C. M. Varma (AT&T Bell Laboratories) *Why High-Temperature Superconductivity Is Such an Important Problem.* October 8, 1993.


1992 – 1993


Michael W. Geis (MIT Lincoln Laboratory) *Thin-Film Diamond Devices and Diamond Transistors.* March 26, 1993.


Arthur F. Davidsen (Johns Hopkins Univ.) *Scientific Results From the Hopkins Ultraviolet Telescope.* March 12, 1993.


John M. Logsdon (George Washington Univ.) *The Outlook for the Space Program in the Clinton Administration.* February 19, 1993.


G. Richard Garritson, J. T. Stadter, John J. Wozniak, Paul J. Waltrup, and F. G. Arcella  (JHU/APL)  *Aeronautics Department: From Bumblebee to the Twenty-First Century; Engineering Programs in the Aero Department; Applications of Fluid Dynamics; From COBRA to NASP – 48 Years of Ramjet Engine Development at APL; Meeting New Opportunities.*  October 9, 1992.

Noel C. MacDonald  (Cornell Univ.)  *Nanomechanisms for Transporting Atoms, Molecules, and Other Small Objects.*  October 2, 1992.

1991 – 1992


D. M. Pardoll  (Johns Hopkins Univ.)  *Molecular Engineering of the Anti-Tumor Immune Response.*  June 12, 1992.


James W. Head III  (Brown Univ.)  *Venus Volcanism: Recent Results From Magellan.* May 8, 1992.

S. Fred Singer  (Univ. of Virginia)  *Are Human Activities Affecting the Climate?* May 1, 1992.


Gerald Cook (George Mason Univ.)  *Two Topics in Robotics: Kinematic Redundancy and Uncertain Environments.* January 3, 1992.


Fereydoon F. Family (Emory Univ.)  *Dynamics of Fractal Surfaces.* October 25, 1991.


1990 – 1991


Timothy A. Fischell (Stanford Univ.)  *Advances in the Treatment and Understanding of Coronary Artery Disease.* May 24, 1991.


Robert Costanza  (Univ. of Maryland Chesapeake Biological Laboratory)  *Ecological Economics*.  March 22, 1991.


Guy M. McKhann  (Johns Hopkins Univ.)  *Approaches to the Neurobiology of Language.* November 30, 1990.


Bassam Z. Shakhashiri  (Univ. of Wisconsin)  *Communicating Science.* November 9, 1990.


Ronald M. Atlas  (Univ. of Louisville)  *Bioremediation of Oil Spills.* October 26, 1990.


1989 – 1990


Michael W. Roth  (JHU/APL)  *Neural Networks, Machine Vision, and Automatic Target Recognition.* June 1, 1990.


Salvatore R. DiNardi  (Univ. of Massachusetts, Amherst)  *Indoor Air Quality.* May 4, 1990.


Alfred Y. Wong  (Univ. of California, Los Angeles)  *Active Global Experiments for Preserving the Ozone Layer.*  March 23, 1990.


Zlatko Tesanovic  (Johns Hopkins Univ.)  *Superconductivity in a Very High Magnetic Field.*  February 9, 1990.


Bruce A. Barnett  (Johns Hopkins Univ.)  *New Results From the Stanford Linear Collider Z⁰ Experiment: A Limit on the Number of Neutrino Types.*  December 1, 1989.


1988 – 1989


Farouk El-Baz  (Boston Univ.)  In Search of Pharaoh’s Boat.  May 26, 1989.


David Emin  (Sandia National Laboratories)  Large Bipolarons and High-Temperature Superconductivity.  May 5, 1989.


Paul S. Miller  (Johns Hopkins Univ.)  Potential Therapeutic Applications for Anti-Sense Nucleic Acid Analogs.  April 7, 1989.


Julian H. Krolik  (Johns Hopkins Univ.)  Problems in the Formation of the Cosmic Microwave Background.  March 24, 1989.


Arthur W. Sleight  (DuPont Co. and Univ. of California, Santa Barbara)  The Chemist’s View of High Temperature Superconductivity.  February 17, 1989.


1987 – 1988


Harold A. McAlister (Georgia State Univ.) *Optical High-Resolution Astronomy.* May 13, 1988.


Douglas G. Mose (George Mason Univ.) *Indoor Radon Problem Areas in Maryland and Virginia.* April 22, 1988.


Joel R. Primack (Univ. of California, Santa Cruz) *Cosmology and Particle Physics With Dark Matter.* November 6, 1987.


1986 – 1987


Jeffrey A. Brinker  (Johns Hopkins Univ.)  *The Use of Balloon Angioplasty in the Treatment of Heart Disease.*  February 13, 1987.

Francis Halzen  (Univ. of Wisconsin)  *Cosmic Acceleration.*  February 6, 1987.


John R. Dudenesy (British Antarctic Survey)  *Antarctica – A Continent for Science.* December 5, 1986.


Christopher F. D’Elia (Univ. of Maryland)  *Nutrient Enrichment and the Chesapeake Bay.* November 7, 1986.


Paul J. Steinhardt (Univ. of Pennsylvania)  *Quasicrystals.* October 17, 1986.


**1985 – 1986**


Colin J. Pennycuick (Univ. of Miami)  *Animal Locomotion on Earth and Other Planets.* June 6, 1986.


Lawrence A. Soderblom (U.S. Geological Survey)  *Uranus Through the Eyes of Voyager 2.* May 9, 1986.

Harold C. Deutsch (U.S. Army War College Ret.)  *Did ULTRA and MAGIC Win World War II?* May 2, 1986.


Paul A. Bottomley  (General Electric Research Laboratory)  Localized NMR Spectroscopy in Man.  April 11, 1986.

Jerome B. Wiesner  (Massachusetts Inst of Technology)  Enhancing the Man/Machine Interface: MIT’s Media Technology Laboratory.  April 4, 1986.


Michael E. Summers  (Johns Hopkins Univ.)  Supersonic Meteorology and Other Unusual Processes in Io’s Atmosphere.  February 14, 1986.


Robert Frosch  (General Motors Research Laboratories)  An Industrial Laboratory.  January 10, 1986.


December 6, 1985.


November 15, 1985.


Fereydoon F. Family  (Emory Univ. and Massachusetts Inst. of Technology)  Fractals in Aggregation Phenomena.  October 18, 1985.


1984 – 1985


Linn F. Mollenauer  (AT&T Bell Laboratories)  Solitons in Optical Fibers and the Soliton Laser.  
April 26, 1985.


1983 – 1984


W. Peter Trower  (Virginia Polytechnic Inst. and State Univ.)  *Free Fractional Charge: The Evidence and the Consequences.*  May 18, 1984.


Richard F. Mushotzky  (NASA Goddard Space Flight Center)  *Are There Giant Black Holes at the Center of Quasars and Other Active Galaxies?*  March 9, 1984.

Peter M. Rentzepis  (Bell Telephone Laboratories)  *Picosecond Chemistry and Beyond.*  March 2, 1984.


Eugenie Clark (Univ. of Maryland) *Sea Monsters and Cigar Sharks.* December 9, 1983.

John B. Carlson (Univ. of Maryland) *Venus in the Maya World.* December 2, 1983.

James Trefil (Univ. of Virginia) *The Creation of the Universe: New Thoughts on an Old Question.* November 18, 1983.


Azriel Rosenfeld (Univ. of Maryland) *Trends and Perspectives in Computer Vision.* October 21, 1983.


1982 – 1983


George Schmidt (Stevens Inst. of Technology) *Transitions From Order to Chaos.* May 20, 1983.


Stanley D. Shawhan (Univ. of Iowa) *Some Scientific Results From the Space Shuttle: Beam-Plasma Interactions.* April 29, 1983.


Donald B. McIntyre (Pomona College) *Computing Language as an Intellectual Tool: From Hieroglyphics to APL.* March 18, 1983.


1981 – 1982


Jerry Lucas (TeleStrategies) Technology of Interactive Cable TV. May 14, 1982.


Lester B. Lave (Brookings Institution) Conflicting Objectives in Regulating the Automobile. April 16, 1982.
William F. Crowley (Harvard Univ.) *Recent Advances in Reproductive Endocrinology.* April 9, 1982.

Peter Franken (Univ. of Arizona) *Optics at the Other Place.* March 26, 1982.

Timothy P. Coffey (Naval Research Laboratory) *New Insight Into the Structure and Instabilities of the Ionosphere.* March 19, 1982.

Edward Ott (Univ. of Maryland) *Strange Attractors.* March 12, 1982.

S. Fred Singer (Univ. of Virginia) *The Future of World Oil.* March 5, 1982.


Donald S. Coffey (Johns Hopkins Univ.) *The Structure and Function of the Nuclear Matrix in Biomedical Information Transfer.* February 5, 1982.


Hans Goedicke (Johns Hopkins Univ.) *Exodus: History and Science.* December 18, 1981.

Melvin Calvin (Univ. of California, 1961 Nobel Prize for Chemistry) *Capturing the Sun’s Energy.* December 11, 1981.

Donald E. Polk (Office of Naval Research) *Permanent Magnets: New Directions From Rapid Solidification.* December 4, 1981.


Scott S. Kirkpatrick (IBM Research) *Spin Glasses.* November 6, 1981.


Stamatios M. Krimigis  (JHU/APL)  *The Magnetosphere and Radiation Belts of Saturn: Results From the Voyager Encounters.*  October 9, 1981.

Robert B. Pond  (Johns Hopkins Univ.)  *The History and Promise of Rapid Solidification.*  October 2, 1981.


David N. Schramm  (Univ. of Chicago)  *Some Cosmological Consequences of Massive Neutrinos.*  May 1, 1981.

William M. Fairbanks  (Stanford Univ.)  *Observation of Fractional Charge 1/3 E on Matter.*  April 24, 1981.

Solomon H. Snyder  (JHU School of Medicine)  *Drugs, Neurotransmitters, and the Brain.*  April 22, 1981.


Peter R. Greene  (Univ. of Nottingham)  *The Biodynamics of Running.*  March 27, 1981.


I. S. Sacks  (Carnegie Inst. of Washington)  *Slow Earthquakes.*  February 27, 1981.


Takeshi Egami  (Univ. of Pennsylvania)  *Defects in Amorphous Solids.*  February 6, 1981.


Bernard G. Campbell  (Univ. of California Los Angeles)  *The Evolution of Intelligence and Language.*  January 23, 1981.

Murray B. Sachs  (Johns Hopkins Univ.) *The Neural Processing of Speech.* January 9, 1981.

Frank J. Tipler  (Univ. of Texas) *The Case for an Initial Cosmological Singularity.* December 19, 1980.


Jerome D. Frank  (Johns Hopkins Univ.) *Psychological Aspects of the Nuclear Arms Race.* October 31, 1980.

Tepilit Ole Saitoti  (Author) *Maasai: The Land and the People, and the National Geographic Society Film "Man of the Serengeti."* October 24, 1980.


1979 – 1980

Myron Genel  (Yale Univ.) *Treatment of Diabetes and Other Diseases With External Pumps.* September 26, 1980.


Michael Mirowski  (Sinai Hospital and Johns Hopkins Univ.)  *The Automatic Implantable Defibrillator From Inception to Clinical Application.*  May 2, 1980.


**Douglas R. Hofstadter**  (Univ. of Indiana)  *Gödel, Escher, Bach: An Eternal Golden Braid.*  April 18, 1980.

**Frederick S. Billig**  (JHU/APL)  *A Visit to China.*  April 11, 1980.


**Allen Rosencwaig**  (Lawrence Livermore Laboratory)  *Photoacoustics – Principles and Recent Developments.*  March 21, 1980.

**Alan A. Schneider**  (Catalyst Research Corp.)  *Electrochemistry of Solid State Batteries.*  March 14, 1980.


**Kosta M. Tsipis**  (Massachusetts Inst. of Technology)  *Particle Beam Weapons.*  March 7, 1980.


**Aihud Pevsner**  (Johns Hopkins Univ.)  *Quarks, Gluons ... a Walk Through the Garden of Elementary Particles.*  February 22, 1980.


**Norman C. Pickering**  (Southampton Hospital)  *The Physics of Violins.*  February 8, 1980.


**Hoyt C. Hottel**  (Massachusetts Inst. of Technology)  *Technical – Congressional Interaction on Synthetic Fuel Production.*  January 11, 1980.


Ernest A. Stern (Univ. of Washington) *Structure Determination by X-Ray Absorption (EXAFS)*. December 7, 1979.


Richard B. Frankel (Frances Bitter National Magnet Laboratory) *A Navigational Compass in Magnetic Bacteria*. October 26, 1979.


1978 – 1979


John R. Apel (NOAA Pacific Marine Environmental Lab) *Scientific Results From SEASAT.* April 6, 1979.


Ilya Prigogine (Univ. of Texas, Univ. of Brussels, and 1977 Nobel Prize for Chemistry) *From Determinism to Probability.* March 16, 1979.


Lester Machta (NOAA Air Resources Laboratory) *The Carbon Dioxide Problem.* January 26, 1979.


Martin A. Tolcott (Office of Naval Research) *Decision Aids for Command and Control.* January 12, 1979.


1977 – 1978


Helmut E. Landsberg  (Univ. of Maryland)  *Fluctuations of the Earth’s Climate.*  October 21, 1977.


1976 – 1977

Mark Goldberger  (Maryland Dept. of Health and Mental Hygiene)  *Tracking Down Legionnaires’ Disease.*  May 27, 1977.


I. B. C. Matheson  (Univ. of Georgia)  *The Role of Active Oxygen in Biological Oxidations.*  April 1, 1977.

Alex Dragt  (Univ. of Maryland)  *Chaos Starting From F = ma.*  March 25, 1977.


Robert Zwanzig  (Univ. of Maryland)  *Molecular Motion in Liquids.*  February 4, 1977.


Harry L. Swinney  (City Univ. of New York)  *Transition to Turbulence in a Rotating Fluid.* November 5, 1976.

Douglas Davis  (Georgia Inst. of Technology)  *Atmospheric Measurements of Trace Gases via Aircraft.* October 29, 1976.


J. G. Mavroides  (Lincoln Laboratory)  *Photoelectrolysis of Water.* October 8, 1976.


**1975 – 1976**


C. W. Misner  (Univ. of Maryland)  *Black Holes and Spacetime Curvatures.* May 14, 1976.


Paul Leventhal  (Senate Government Operations Committee)  *Nuclear Proliferation.* April 30, 1976.


S. Fred Singer  (Univ. of Virginia)  *SSTs, Ozone, and Skin Cancer.*  March 19, 1976.


Theodore Tamir  (Polytechnic Inst. of New York)  *Beam and Waveguide Couplers.*  March 5, 1976.


Allan R. Hoffman  (Senate Committee for Commerce)  *A Scientist Joins the Congressional Staff.*  February 6, 1976.

Arthur Squires  (City Univ. of New York)  *Coal – A Past and Future King.*  January 30, 1976.


Shyke A. Goldstein  (Univ. of Maryland and Naval Research Laboratory)  *Intense Electron and Ion Beams.*  December 18, 1975.


George Clark  (MIT Center for Space Research)  *X-Rays From Gravitationally Collapsed Bodies Observed by SAS-C.*  October 31, 1975.
Virginia L. Trimble (Univ. of Maryland, College Park)  *Cosmology – Man’s Place in the Universe.* October 24, 1975.


**1974 – 1975**


Steven M. Stanley (Johns Hopkins Univ.)  *The Pattern and Process of Large-Scale Evolution.* May 9, 1975.

Eugenie Clark (Univ. of Maryland)  *Mexican “Sleeping” Sharks.* April 25, 1975.

Bernd T. Matthias (Univ. of California, San Diego)  *Different Approaches to High Temperature Superconductivity.* April 18, 1975.

Paul E. Garber (Smithsonian Institution)  *Kites and Boomerangs.* April 4, 1975.


C. F. Christ (Johns Hopkins Univ.)  *How to Create or Control Inflation.* February 7, 1975.

Verner Suomi (Univ. of Wisconsin)  *Mariner 10 Encounters Venus and Mercury.* January 31, 1975.


H. E. Stanley  (Massachusetts Inst. of Technology)  *How Does an Ion Get Through a Membrane?*  December 20, 1974.


M. Harvey Brenner  (Johns Hopkins Univ.)  *Special Problems Associated With National Economic Instability.*  November 22, 1974.


K. W. Boer  (Univ. of Delaware)  *Results From the Experimental Solar House (Solar I).*  October 31, 1974.


C. A. Ponnamperuma  (Univ. of Maryland)  *A Chemical Origin of Life.*  October 11, 1974.


**1973 – 1974**


Robert S. Ledley  (Georgetown Univ. Medical Center)  *A Computer Assisted Tomographic X-Ray Scanner.*  May 10, 1974.


Nicolaas G. van Kampen  (Univ. of Utrecht)  *Nonlinear Transfer Equations.*  April 19, 1974.


E. W. Montroll  (Univ. of Rochester)  Energy Transport in Photosynthetic Units.  February 15, 1974.


E. S. Starkman  (General Motors Corp. and Univ. of California)  The Automobile and the Environment in an Era of Conflicting Demands.  November 30, 1973.


1972 – 1973


Carrol M. Williams  (Harvard Univ.)  *New Approaches to the Selective Control of Insect Pests.*  December 1, 1972.


Max V. Mathews  (Bell Telephone Laboratories)  *Computer Music and Other Unusual Computer Applications.*  October 20, 1972.


1971 – 1972

M. Olson  (Univ. of Maryland)  *The National Income and the Quality of Life.*  June 2, 1972.

Alexander Marshack  (Harvard Univ.)  *Early Ice-Age Intelligence as Revealed by Notation and Art.*  May 19, 1972.


Roger F. Naill (Massachusetts Inst. of Technology) *A Systems Dynamics Study of Nonrenewable Natural Resources.* March 31, 1972.


Harold Schonhorn (Bell Telephone Laboratories) *Surface Chemistry and Practical Adhesion.* February 25, 1972.

Samuel Rosen (Mt. Sinai Hospital Medical School) *A Physician’s Report on His Visit to China.* February 18, 1972.


Armand H. Delsemme (Univ. of Toledo) *Our Understanding of the Cometary Phenomena.* February 4, 1972.


Timothy Williams and Janet Williams (State Univ. of New York) *Tracking Radar Studies of Bird Migrations.* December 17, 1971.


James S. Coleman (Johns Hopkins Univ.) *Entry of the Young Into Adult Society.* November 19, 1971.


1970 – 1971

R. Conrad (Medical Research Council)  *Why We Talk to Ourselves When We Read.*  May 21, 1971.


Atheslstan F. Spilhaus (American Association for the Advancement of Science)  *Toward a Steady World.*  April 9, 1971.


M. S. Eisenhower (Johns Hopkins Univ.)  *To Insure Domestic Tranquility.*  February 12, 1971.


Charles Blake (Federal Aviation Administration)  *SST Program Rationale and Status.*  December 11, 1970.


Joseph Schiebel (Georgetown Univ.)  *The Soviet Scientist and Dissent.*  November 27, 1970.


Arthur Squires (City Univ. of New York)  *Clean Power From Coal.*  October 30, 1970.

Walter Elsasser (Univ. of Maryland)  *Solid Geophysics: From Sea Floor Spreading to Mountain Building.*  October 16, 1970.

Lauren Rueger (JHU/APL)  *Time and Frequency Standardization.*  October 9, 1970.

1969 – 1970


Thomas Collins (National Accelerator Laboratory)  *The Present Status and Future Plans of the National Accelerator Laboratory (N.A.L.)*  May 1, 1970.

Stanislaw Ulam (Univ. of Colorado)  *Some Unusual Uses of Computers and Computing.*  April 24, 1970.


L. Eugene Cronin (Univ. of Maryland)  *The Chesapeake at Bay.* March 13, 1970.


Terrill A. Cool (Cornell Univ.)  *Continuous-Wave All-Chemical Lasers.* February 20, 1970.


Simon Foner (MIT Lincoln Laboratory)  *High Field Magnetism and Some Applications.* January 30, 1970.


R. C. Powell (U.S. Coast Guard)  *The Tanker Manhattan Through the Northwest Passage.* December 5, 1969.


Carroll Alley (Univ. of Maryland)  *The Apollo 11 Laser Ranging Retro-Reflection Experiment.* November 7, 1969.

Lawrence Goldmuntz (U.S. Dept. of Transportation)  *A Proposed Solution for Air Traffic Control.* October 31, 1969.
Derrick Scovil (Bell Telephone Laboratories)  *Magnetic Bubbles.*  October 24, 1969.


1968 – 1969

E. S. Starkman (Univ. of California Berkeley)  *Control of Vehicular Emissions: Methods and Limitations.*  May 29, 1969.


Peter G. Fielding (Booz Allen Research)  *The Status of Surface-Effect Vehicles.*  May 9, 1969.


Louis Flexner (Univ. of Pennsylvania)  *Memory.*  April 18, 1969.

Martin A. Uman (Westinghouse Research and Development)  *Lightning.*  April 11, 1969.

Hellmut Fritzsche (Univ. of Chicago)  *Amorphous Semiconductors, New Physics, and a New Technology.*  March 28, 1969.


Reid A. Bryson (Univ. of Wisconsin Center for Climatic Research)  *Effects of Atmospheric Pollution on Climate.*  March 7, 1969.


**Peter H. Rossi** (Johns Hopkins Univ.) *Civil Disorders and the Politics of Discontent*. November 22, 1968.


**Abraham Robinson** (Yale Univ.) *The Rebirth of the Infinitesimal*. November 1, 1968.


**1967 – 1968**


Abel Wolman (Johns Hopkins Univ.) *Problems of the Environment.* April 12, 1968.


Sterling A. Colgate (New Mexico Inst. for Mining and Technology) *Supernova Interpretation of Quasars.* March 8, 1968.

K. Kurokawa (Bell Telephone Laboratories) *Applying the Gunn Effect to High-Speed Devices.* March 1, 1968.

Clarence M. Fowler (Los Alamos Scientific Laboratory) *Explosive Production of Multi-Megagauss Fields and Their Application.* February 16, 1968.


Richard J. Johns (Johns Hopkins Univ.) *Biomedical Engineering From Different Viewpoints.* January 19, 1968.


Nicolaas G. van Kampen (Univ. of Utrecht and Howard Univ.) *Does a Moving Body Appear Cool?* December 1, 1967.


1966 – 1967


Herman Kahn  (Hudson Institute)  *The Next Thirty-Three Years.*  May 5, 1967.


Luigi Jacchia  (Smithsonian Astrophysical Observatory)  *Structure and Variations of the Upper Atmosphere.*  April 21, 1967.


Allen B. Holmes  (Harry Diamond Laboratory)  *Fluidic Missile Control.*  March 31, 1967.


F. Phillip Bowden (Cambridge Univ.) *Molecularly Flat Surfaces.* November 11, 1966.

Karl F. Herzfeld (Catholic Univ. of America) *Newton’s 'Laws' – Laws or Definitions?* October 28, 1966.


1965 – 1966


Robert Frosch (Advanced Research Projects Administration) *Seismic Arrays.* March 11, 1966.

L. S. Kubie (Sheppard-Pratt Hospital) *Blocks to Creativity.* March 4, 1966.


Edward Mason (Univ. of Maryland) Oscillating Instabilities in Diffusing Gases. February 4, 1966.


1964 – 1965


Carl Kiess  (Georgetown Univ.)  *An Interpretation of Martian Phenomena.*  April 9, 1965.

Donald Nordeen  (General Motors Research Lab)  *Stability of Automobiles.*  April 2, 1965.


Herbert Friedman  (Naval Research Laboratory)  *X-Rays From Supernovae.*  December 4, 1964.

Holbrook MacNeille  (Case Inst. of Technology)  *Experimental Films in Mathematics Teaching.*  November 20, 1964.


Gordon Lill  (National Science Foundation)  *Project Mohole.*  October 30, 1964.


1963 – 1964

P. E. James  (Syracuse Univ.)  *New Viewpoints on Geography and National Power.*  May 27, 1964.

Carl O. Bostrom (JHU/APL)  *Results of Particle Measurements From APL Satellites.*  May 22, 1964.


P. Morrison (Cornell Univ. and Massachusetts Inst. of Technology)  *Cosmic X-Rays and Gamma Rays.*  May 1, 1964.


Jesse W. Beams (Univ. of Virginia)  *Some Experiments With High Constant-Speed Rotors.*  April 10, 1964.


Abraham Bers (Massachusetts Inst. of Technology)  *The Nature of Stable and Unstable Waves in Plasmas and Other Dispersive Media.*  March 20, 1964.

Donald Pritchard (Johns Hopkins Univ.)  *Research and Education in Oceanography at the Johns Hopkins University.*  March 13, 1964.


Max A. Butterfield (U.S. Post Office) *Problems in Handling Large Volumes of Mail.* December 6, 1963.


**1962 – 1963**


J. Blewett (Brookhaven National Laboratory) *Design Studies for 300 to 1000 BeV Accelerators and the Future of Large Accelerators.* March 22, 1963.


Herman F. Mark  (Brooklyn Polytechnic Inst.)  *New Events in the Physics of Polymers.*  March 1, 1963.


Conway Snyder  (Jet Propulsion Laboratory)  *Results From the Mariner II Spacecraft.*  February 14, 1963.


T. Reynolds  (St. Elizabeth’s Hospital)  *A Research Program in a Mental Hospital.*  January 11, 1963.

W. Tantraporn  (General Electric)  *Thin-Film Active Elements for Use in Microelectronics.*  January 4, 1963.


D. B. Beard  (Univ. of California)  *Microwave Emission From Jupiter.*  November 9, 1962.


W. L. Faust  (Bell Telephone Laboratories)  *Some Recent Experiments With Gaseous Optical Masers.*  October 19, 1962.


1961 – 1962


W. B. Fowler (Brookhaven National Laboratory)  *Bubble Chamber Physics at the Brookhaven National Laboratory.*  March 30, 1962.


S. Mason (Massachusetts Inst. of Technology)  *Sensory Communication for the Blind.*  March 16, 1962.

J. Charney (Massachusetts Inst. of Technology)  *Some Problems in the Dynamics of Planetary Atmospheres.*  March 9, 1962.


J. E. Kunzler (Bell Telephone Laboratories)  *High-Field Superconductivity and Superconducting Magnets.*  January 12, 1962.


D. K. Wessel (Syracuse Univ.) *Some Recent Developments in Optical and Infrared Masers.* December 8, 1961.


David J. Rose (Massachusetts Inst. of Technology) *Some Recent Advances and Future Prospects in Controlled Thermonuclear Fusion.* November 24, 1961.


John C. Lilly (Communications Research Institute) *Communications by Dolphins.* November 3, 1961.


### 1960 – 1961


O. Selfridge (MIT Lincoln Laboratory) *Discussion of Problems Associated With Machine Learning.* April 7, 1961.


G. W. Stroke (Massachusetts Inst. of Technology) *Recent Developments in Large Diffraction Gratings.* March 17, 1961.


V. W. Hughes  (Yale Univ.) *Muonium.* November 18, 1960.


Hugh Odishaw  (Space Science Board) *Some Aspects of the International Geophysical Year (IGY) of Current Interest.* October 14, 1960.

1959 – 1960


Eugene N. Parker  (Univ. of Chicago) *The Solar Wind.* April 22, 1960.


W. Markowitz  (U.S. Navy Observatory) *Precision Time and Frequency From VLF Transmissions.* April 15, 1960.


A. C. Kolb (Naval Research Laboratory) Acceleration and Confinement of Dense Plasmas. October 23, 1959.


1958 – 1959


S. B. Hendricks (Dept. of Agriculture) Physics and Biology, or the Physiology of Plants. May 8, 1959.


F. Rohrlich (Johns Hopkins Univ.) Negative Atomic Ions. February 27, 1959.


S. Fred Singer (Univ. of Maryland) The Origin of the Earth's Radiation Belts. February 13, 1959.


J. B. Johnson (Thomas Edison Inc.) Edison's Contribution to Thermionics. December 5, 1958.


J. R. Pierce (Bell Telephone Laboratories) *Use of Satellites for Transoceanic Communications.* October 10, 1958.