

JHU Applied Physics Laboratory Colloquia

January 6, 2025

www.jhuapl.edu/colloquium/archive

colloquium@jhuapl.edu

2024 - 2025

John J. Klein (Falcon Research) *Fight for the Final Frontier - Irregular Warfare in Space.*
December 20, 2024.

Col. Walter Gordon (Air Force Reserve (Ret.)) *Ten Things I Didn't Learn at War College.*
December 6, 2024.

Madelyn R. Creedon (Chair) and Rebecca L. Heinrichs (Commissioner) (The Strategic Posture Commission) *America's Strategic Posture – The Final Report of the Second Congressional Commission on the Strategic Posture of the United States.* December 2, 2024.

RDML Kurtis A. Mole (Deputy Commander, Fleet Cyber Command) *Freedom Demands Service.*
November 26, 2024.

Sherri Goodman (Senior Fellow, Wilson Center) *Threat Multiplier: Climate, Military Leadership, and the Fight for Global Security.* November 22, 2024.

Wanda Díaz Merced (Cathedralic at Universidad del Sagrado Corazon Puerto Rico, Fellow of the Royal Academy International Trust (RASIT), and Director of Science In Braille (RASIT)) *Experiencing the Universe! A Path to Humanistic Transformation in Science.* November 15, 2024.

Christopher Kirchoff, Ph.D. (Author) *A Requiem for Defense Innovation? Ukraine, the Pentagon's Innovator's Dilemma, and Why the United States Risks Strategic Surprise.* November 1, 2024.

Bryant Walker Smith (Univ. of South Carolina) *What Automated Driving Can Teach Us About Regulating AI.* October 25, 2024.

Katherine Kjellstrom Elgin (Center for Strategic and Budgetary Assessments (CSBA)) *More of the Same? The Future of the Russian Military and Its Ability to Change.* October 18, 2024.

Thomas G. Dietterich (Distinguished Prof. Emeritus, Oregon State Univ.) *What's Wrong With LLMs and What We Should Be Building Instead.* October 16, 2024.

Michael Ferguson (HPE) *Productive Parallel Programming With the Chapel Language.*
October 11, 2024.

Dennis E. Seymour, Ph.D. (Eastern Band Cherokee, Baltimore American Indian Center) *Indian 201 - Getting Deeper in the Weeds With the American Indians.* October 4, 2024.

2023 – 2024

Ximena Cid (Calif. State Univ., Dominguez Hills) *Physics Content Knowledge: Moving the Field Forward Through a Lens of Equity.* September 27, 2024.

Cynthia Moss (Director, JHU Comparative Neural Systems and Behavior Laboratory (aka the Bat Lab)) *Neural Codes for 3D Auditory Localization.* September 13, 2024.

Chris Myers (Johns Hopkins Carey Business School) *Vicarious Learning in Organizations: How Can Firms Pass on Tacit Knowledge?* September 6, 2024.

Dmitri Alperovitch (Chairman, Silverado Policy Accelerator) *World on the Brink: How America Can Beat China in the Race for the Twenty-First Century.* July 1, 2024.

Danielle German (Johns Hopkins Bloomberg School of Public Health) *Prevalence and Context of LGBTQ Health Disparities in the Baltimore Area.* June 28, 2024.

David A. Stainforth (Grantham Research Institute on Climate Change and the Environment, London School of Economics) *Predicting Our Climate Future: What We Know, What We Don't Know, and What We Can't Know.* June 21, 2024.

Thomas Wildenberg (Historian) *Fighting in the Electromagnetic Spectrum: Development of U.S. Navy and Marine Corps Electronic Warfare Aircraft, Operations and Equipment.* June 14, 2024.

K.A. Nelson (Author) *The War Comes Home: Nazi Germany's U-Boat Offensive in American Waters.* June 7, 2024.

General (Ret.) Kenneth F. McKenzie Jr., U.S. Marines (Former Commander, U.S. Central Command; Executive Director, Global and National Security Institute, The Florida Center for Cybersecurity, University of South Florida) *The Melting Point: High Command and War in the 21st Century.* June 3, 2024.

Stephen Biddle (Columbia Univ.) *War Termination in Ukraine.* May 31, 2024.

Ying-Tsong Lin (Scripps Institution of Oceanography, U.C. San Diego) *From the Surface of the Ocean to the Bottom of the Sea.* May 30, 2024.

Steve Carmel (US Marine Management) *Supply Chain Resilience in the Face of Unexpected Disruption.* May 23, 2024.

Arturo Casadevall (Johns Hopkins Univ.) *What if Fungi Win?* May 17, 2024.

Kenneth Libbrecht (Caltech) *The Physical Dynamics of Ice Crystal Growth.* May 10, 2024.

Siegfried Hecker (Stanford Univ.) *Is Kim Jong Un Preparing for War?* May 3, 2024.

Bob Jensen (Strat3 LLC) *Hurricanes to Pandemics: Crisis Communication Lessons to Learn.* April 26, 2024.

- ADM James A. "Sandy" Winnefeld, Jr.** (U.S. Navy (Ret.)) *Sailing Upwind: Leadership and Risk From TopGun to the Situation Room.* April 19, 2024.
- Michael Wehner** (Lawrence Berkeley National Laboratory) *Extreme Weather Impact Attribution, Environmental Justice and Loss & Damages.* April 12, 2024.
- Jeff Vandenengel** (U.S. Navy) *Questioning the Carrier: Opportunities in Fleet Design for the U.S. Navy.* April 5, 2024.
- Markus Garlauskas** (Atlantic Council) *The Risk of Simultaneous Conflicts and Limited Nuclear Attacks in East Asia.* March 29, 2024.
- Randy Carol Goguen** (U.S. Navy (Ret.)) *From Yeomanettes to Fighter Jets: A Century of Women in the U.S. Navy.* March 27, 2024.
- Renny Babiarz** (AllSource Analysis) *China and the Next Nuclear Arms Race: Indications of Nuclear Weapons Test Preparations at Lop Nur, 2020-2024.* March 22, 2024.
- Lee Ryan** (Univ. of Arizona) *Precision Aging: Busting the One-Size-Fits-All Myth.* March 15, 2024.
- Xiaobing Li** (Univ. of Central Oklahoma) *China's Mahan: Admiral Liu Huaqing.* March 8, 2024.
- Michael G. Vickers** (Under Secretary of Defense for Intelligence (Ret.)) *By All Means Available: Memoirs of a Life in Intelligence, Special Operations, and Strategy.* March 1, 2024.
- Bran Ferren** (Chief Creative Officer, Applied Minds LLC) *Combining Art and Engineering to Solve Impossible Technology Challenges.* February 28, 2024.
- Lewis Dartnell** (Univ. of Westminster) *BEING HUMAN: How Our Biology Shaped World History.* February 16, 2024.
- Darryll Pines** (President, Univ. of Maryland) *Arts for All.* February 12, 2024.
- Dennis Whyte** (Director, Plasma Science & Fusion Center, MIT) *Mars Colonization With a Fusion-Fission Hybrid Spacecraft.* February 9, 2024.
- Ashley Tellis** (Carnegie Endowment for International Peace) *Striking Asymmetries: Nuclear Transitions in Southern Asia.* January 26, 2024.
- Greg Gbur** (UNC Charlotte) *Falling Felines & Fundamental Physics.* January 12, 2024.
- Lorin Selby** (WestExec Advisors) *2020's – Will This Be the Defining Decade of the 21st Century?* January 5, 2024.
- Mark Shelhamer** (Johns Hopkins University School of Medicine) *Preparing for the Unpredictable: Facilitating Multi-System Resilience in Human Spaceflight.* December 15, 2023.
- Jenna Carpenter** (Campbell Univ.) *Making STEM More Inclusive and Diverse: Research Best Practices That Work.* December 8, 2023.

Christina Koch (NASA Astronaut) *Human Spaceflight: A Mission to ISS by a Former APLer*.
December 1, 2023.

Dr. Jason Kalirai, Dr. Nour E. Raouafi, and Dr. Daniel Müller (JHU/APL and ESA ESTEC)
Extreme Exploration: Parker Solar Probe and Solar Orbiter Trailblazing Around the Sun.
November 17, 2023.

J. Kevin White (Founder and Executive Director, Global Vision 2020) *Life After the Marine Corps -
Continuing to Serve Others Through Global Vision 2020*. November 6, 2023.

Carter Brandon (World Resources Institute) *The Macro-Critical Risks of Climate Change: Water
and Beyond*. November 3, 2023.

Richard B. Frank (Historian) *Tower of Skulls: A History of the Asia-Pacific War*. October 31, 2023.

Michael Levin (Tufts Univ.) *Bioelectricity as Cognitive Glue: From Diverse Intelligence to
Regenerative Medicine*. October 27, 2023.

Maj. Gen. Gregg F. Martin, Ph.D. (U.S. Army (ret.)) *BIPOLAR GENERAL: My Forever War With
Mental Illness*. October 12, 2023.

Dennis E. Seymour Ph.D. (Eastern Band Cherokee) (Baltimore American Indian Center) *Indian
- 101; Everything That You Wanted to Know About American Indians, but Were Afraid to Ask*.
October 6, 2023.

2022 - 2023

Phil Koopman (Carnegie Mellon Univ.) *How Safe Is Safe Enough for Autonomous Vehicles?*
September 29, 2023.

Yaneer Bar-Yam (New England Complex Systems Institute) *Understanding Society Based on Its
Control Parameters*. September 22, 2023.

Robert Panas (Bright Silicon Technologies) *Solid-State Beamsteering With the Lightfield Directing
Array*. September 8, 2023.

Andy Hoehn and Thom Shanker (RAND Corp. and George Washington Univ.) *Age of Danger:
Keeping America Safe in an Era of New Superpowers, New Weapons, and New Threats*. August 31,
2023.

Brent Sadler (U.S. Navy (ret.)) *A New Model Navy for an Era of Great Power Rivalry*. August 18,
2023.

Philip Shackelford (Military Historian) *Priority One: Securing Cryptologic Freedom in the U.S. Air
Force*. June 30, 2023.

- Yusuke KAWACHI** (Colonel, Japan Ground Self-Defense Force and Military Attaché, Embassy of Japan in the U.S.A.) *The Case for Japanese Land Power in the First Island Chain*. June 23, 2023.
- Diane Bernier** (Executive Director, Fidos For Freedom) *Fidos for Freedom*. June 16, 2023.
- Jay Brett** (JHU/APL) *Pride and Physical Oceanography*. June 9, 2023.
- Paul Stillwell** (Historian) *Scientist in Uniform: Vice Admiral Willis A. Lee, Jr.* June 2, 2023.
- Peter Zeihan** (Zeihan on Geopolitics) *Looking Past the End of the World*. May 26, 2023.
- Wendy Bohon** (Science Communication Consultant) *Trust Me, I'm a Scientist: The Science of Science Communication*. May 19, 2023.
- Robert Haddick** (Mitchell Inst. for Aerospace Studies, USMC (ret.)) *The Taiwan Flashpoint: Scenarios, Capability Gaps, and Deterrence*. May 12, 2023.
- Vicki Ferrini** (Lamont-Doherty Earth Observatory, Columbia Univ.) *Increasing Accessibility of Marine Geoscience Data*. May 5, 2023.
- Rama Chellappa** (Bloomberg Distinguished Professor, JHU) *Can We Trust AI?* April 28, 2023.
- Marc Kolodner** (JHU/APL) *From the Open Ocean to the Ukraine War, Changing the Way We See the World Through Commercial Satellite Imagery*. April 21, 2023.
- Margaret Sankey** (Air University) *Blood Money: How Criminals, Militias, Rebels, and Warlords Finance Violence*. April 14, 2023.
- Tom Ramos** (Lawrence Livermore National Laboratory) *Nuclear Threats Thrown at America Before There Was a Putin*. April 12, 2023.
- Craig Symonds** (Prof. Emeritus, U.S. Naval Academy) *Nimitz at War: Command Leadership From Pearl Harbor to Tokyo Bay*. April 7, 2023.
- Jennifer B. Litchman** (Univ. of Maryland, Baltimore) *On Becoming a Self-Aware Leader*. March 31, 2023.
- Jamon "Ham" Bailey** (Sr. Learning Consultant) *Rise to the Opportunity*. March 30, 2023.
- Porter Halyburton** (Prof. Emeritus, Naval War College) *Reflections on Captivity -- A Tapestry of Stories by a Vietnam War POW*. March 24, 2023.
- Larrie D. Ferreira** (George Mason Univ.) *Churchill's American Arsenal: The Partnership Behind the Innovations That Won World War Two*. March 17, 2023.
- Taylor D. Sparks** (Univ. of Utah) *Materials Informatics: Moving Beyond Screening via Generative Machine Learning Models*. March 10, 2023.

Col. Wendell B. Leimbach Jr. (USMC; Director, Joint Intermediate Force Capabilities Office) *DoD Intermediate Force Capabilities: Bringing the Fight to the Gray Zone.* March 3, 2023.

Sean Carroll (Homewood Professor of Natural Philosophy, JHU) *From Quantum Mechanics to Spacetime.* February 24, 2023.

GEN Larry O. Spencer (USAF (ret.)) *Dark Horse: General Larry O. Spencer and His Journey From the Horseshoe to the Pentagon.* February 17, 2023.

Michael T. Menzel (JWST Mission Systems Engineer, NASA) *The James Webb Space Telescope.* February 3, 2023.

Tim Jorgensen (Georgetown Univ.) *Spark: The Shared Origin Story of the Electrical and Neurological Sciences.* January 20, 2023.

Bilyana Lilly (Cybersecurity Consultant and Author of Russian Information Warfare) *Russian Information Warfare: Assault on Democracies in the Cyber Wild West.* January 13, 2023.

Trent Hone (Naval Historian) *Mastering the Art of Command: The Strategic Artistry of Admiral Nimitz.* January 6, 2023.

Roderick G. Eggert (Colorado School of Mines) *Energy Critical Materials and Their Supply Chains - The Economic and Policy Context.* December 2, 2022.

Pat Scannon (Project Recover) *PROJECT RECOVER: The Impact of Returning MIAs on Family and Community.* November 10, 2022.

Shannon MacKenzie, Haje Korth, Zibi Turtle, and Karen Kirby (JHU/APL Space Exploration Sector) *APL's Exploration of Our Solar System's Ocean Worlds.* November 4, 2022.

Mike Gruntman (Univ. of Southern California) *Intercept 1961: From Air Defense SA-1 to the Birth of Soviet Missile Defense.* October 31, 2022.

Michael Fabey (Author and Journalist) *Heavy Metal: The Hard Days and Nights of the Shipyard Workers Who Build America's Supercarriers.* October 28, 2022.

Catherine Musemeche (Author) *Mary Sears and the Race to Solve the Ocean in World War II.* October 21, 2022.

Amy Zegart (Hoover Institution) *How Technology Is Changing American Intelligence.* October 18, 2022.

Ernest Snowden (Author) *Maritime Unmanned - From BAMS to TRITON.* October 14, 2022.

Kathleen Rowen (APL National Security Analysis Department) *The Ukraine Crisis: APL's Analytical Capabilities in Action.* October 7, 2022.

2021 – 2022

- Jonathan Parshall** (Historian and Author) *What Was Nimitz Thinking?: An Analysis of American Battle Planning for Midway.* September 30, 2022.
- Sarah Greenstreet** (Univ. of Washington) *The Solar System's Most Unusual Objects: The Dynamics of Inner-Venus and Retrograde Asteroids.* September 23, 2022.
- Jorge Salazar-Cerreño** (Univ. of Oklahoma) *Design Aspects of Multifunction Phased Array Radars and Future Research Directions.* September 16, 2022.
- James J. Wynne** (IBM Research) *Illuminating My Career – From Flash Gordon to Laser Surgery.* September 9, 2022.
- Timothy Leighton** (Southampton Univ.) *Is the Public Exposed to Airborne Ultrasound, and Are There Adverse Effects?* June 24, 2022.
- Col. A. "Buz" Carpenter** (USAF (ret.)) *The Creation & Operations of the SR-71 – A Legacy of Unequaled Excellence.* June 17, 2022.
- Konstantina Trivisa** (Univ. of Maryland) *An Efficient Quantum Algorithm for Dissipative Nonlinear Partial Differential Equations.* June 10, 2022.
- Elbridge Colby** (The Marathon Initiative) *The Strategy of Denial: American Defense in an Age of Great Power Conflict.* June 3, 2022.
- VADM Raquel "Rocky" Bono** (APL Senior Fellow, U.S. Navy (ret.)) *Lessons Learned About Genuine Leadership.* May 20, 2022.
- Virginia Postrel** (Author) *The Fabric of Civilization: How Textiles Made the World.* May 13, 2022.
- Guy Thomas** (C-SIGMA) *A Silent Warrior Steps Out of the Shadows.* May 6, 2022.
- Peter Worcester** (Scripps Institution of Oceanography) *Ocean Acoustics in the Changing Arctic.* April 29, 2022.
- Dr. Daniel Geschwind** (UCLA) *The Human Brain on a Continuum: The Genetics Behind Autism Spectrum Disorder.* April 26, 2022.
- Prabhakar Pathak** (Ohio State Univ. emeritus) *Ray and Wave Optical Methods for Solving Large EM Radiation and Scattering Problems.* April 22, 2022.
- Peter Schwartz** (Salesforce.com) *A Dangerous Decade Ahead.* April 19, 2022.
- Rose Gottemoeller** (Stanford Univ.) *Replacing New START After Ukraine and the Nuclear Posture Review.* April 15, 2022.
- Surjeet Rajendran** (Johns Hopkins Univ.) *Opening Up the Gravitational Wave Spectrum.* April 8, 2022.

- Ron Hetrick** (EMSI Burning Glass) *The Demographic Drought: How a Lack of People Will Change How We Look at Labor.* April 1, 2022.
- Liz Specht** (The Good Food Institute) *Technological Challenges and Opportunities in the Emerging Field of Alternative Proteins.* March 25, 2022.
- Sarah Stewart Johnson** (Georgetown Univ.) *Contending With the Truly Alien.* March 18, 2022.
- MGEN Mari K. Eder** (U.S. Army (ret.)) *The Girls Who Stepped Out of Line - Then and Now.* March 11, 2022.
- Mary Ann Hellrigel** (IEEE History Center) *The Telephone Ladies and Bell System's "Spirit of Service" During World War II.* March 4, 2022.
- Andrea Alù** (City Univ. of New York) *Extreme Wave Phenomena in Metamaterials With Broken Symmetries.* February 25, 2022.
- MAJGEN Mick Ryan AM** (Australian Army (ret.)) *War Transformed: The Future of Twenty-First-Century Great Power Competition and Conflict.* February 22, 2022.
- Nadia Nurhusein** (Johns Hopkins Univ.) *"Mad Waters of the World-Sea": Oceanic Humanities and the Black Diaspora.* February 18, 2022.
- Jonas Peters** (Univ. of Copenhagen) *The Raven's Hat: Fallen Pictures, Rising Sequences, and Other Mathematical Games.* February 11, 2022.
- MAJ Aaron Canciani** (U.S. Air Force) *Absolute Positioning Using the Earth's Magnetic Field.* February 9, 2022.
- Lewis Dartnell** (Univ. of Westminster) *The Knowledge: How to Rebuild Our World From Scratch.* February 4, 2022.
- Alice Bowman** (JHU/APL) *NASA's New Horizons Mission: Beyond Pluto.* January 28, 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.
- Ken Allen and Brendan Mulvaney** (USAF China Aerospace Studies Inst.) *A Day in the Life of a PLA Air Force and Naval Aviation Unit.* January 11, 2022.
- Mark Treanor** (Author) *A Quiet Cadence, a Novel About Combat and Its Aftermath.* January 7, 2022.
- Juan Maldacena** (Institute for Advanced Study, School of Natural Sciences) *Black Holes and the Structure of Spacetime.* December 17, 2021.

Michael Krepon (The Stimson Center) *Winning and Losing the Nuclear Peace*. December 14, 2021.

Paul N. Stockton (JHU/APL Senior Fellow) *Defeating Coercive Information Operations in Future Crises*. December 10, 2021.

LT David West (U.S. Navy) *Terminal Effects of Hypersonic Weapon Impacts*. December 8, 2021.

Jennifer Wilcox (National Cryptologic Museum) *Talking in Code*. December 3, 2021.

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

Skip Finley (Author) *Whaling Captains of Color: America's First Meritocracy*. November 5, 2021.

Michael Brenner (School of Engineering and Applied Science, Harvard Univ.) *Science and Cooking -- Teaching Physics to Undergraduates (And the World!) Through Cooking*. October 29, 2021.

Frank von Hippel (Univ. of Arizona) *The Chemical Age: Pesticides and Chemical Weapons From World War I to the Vietnam War*. October 22, 2021.

LT Elih M. Velazquez-Delgado (Armed Forces Radiobiology Research Institute) *America's Military – A Profession of Arms*. October 15, 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.

Danny Price (International Centre for Radio Astronomy Research at Curtin Univ.) *AI and ETI: The Breakthrough Listen Search for Intelligent Life*. September 17, 2021.

VADM John J. Donnelly (US Navy (ret.)) *Ice Exercise (ICEX) 2007 – Research, Tactical Development, and Tragedy*. September 9, 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.

David Albright (Institute for Science and International Security) *Iran's Perilous Pursuit of Nuclear Weapons*. July 23, 2021.

George Galdorisi and Sam Tangredi (Naval Information Warfare Center Pacific and US Naval War College) *Algorithms of Armageddon: What Happens When We Insert AI Into Our Military Weapons Systems?* July 16, 2021.

- LT Matthew Henricks** (US Navy) *Analysis of Rapidly Printed Flexible Metamaterials for Microwave Weapon Defense.* July 9, 2021.
- Cato Milder** (Vanderbilt Univ.) *The Contribution of Uranium Workers to Radiation Epidemiology.* June 25, 2021.
- CAPT Matthew "Beaker" Culp** (CNO's Strategic Action Group, U.S. Navy) *Advantage at Sea – Prevailing With Integrated All-Domain Naval Power.* June 16, 2021.
- Christian Brose** (Chief Strategy Officer, Anduril Industries) *Disrupting National Defense: A Conversation With Christian Brose.* June 11, 2021.
- Tuan Do** (UCLA Galactic Center Group) *The Galactic Center: A Laboratory for the Study of the Physics and Astrophysics of Supermassive Black Holes.* June 4, 2021.
- Roopa Unnikrishnan** (Vontier Corporation) *Building an Innovation Culture in the Midst of Change.* May 28, 2021.
- Jim Bellingham** (Executive Director, Institute for Assured Autonomy, Johns Hopkins Univ.) *Autonomy at the Edge.* May 21, 2021.
- Patrick K. O'Donnell** (Historian and Author) *The Indispensables: Marblehead's Diverse Soldier-Mariners Who Shaped the Country, Formed the Navy, and Rowed Washington Across the Delaware.* May 19, 2021.
- Jeff Hawkins** (Numenta) *"A Thousand Brains: A New Theory of Intelligence" With Jeff Hawkins.* May 14, 2021.
- Dan Esty** (Director, Yale Center for Environmental Law and Policy) *America's Zero Carbon Action Plan.* May 7, 2021.
- A.J. Simon and Hannah Goldstein** (Lawrence Livermore National Lab) *The U.S. Energy System in the Age of Abundance.* April 30, 2021.
- Jennifer Ackerman** (Author) *The BIRD WAY: A New Look at How Birds Talk, Work, Play, Parent, and Think.* April 23, 2021.
- Alexandra Samuel** (Data Journalist and Tech Writer) *Neurodiversity and the Future of Work.* April 16, 2021.
- Nicholas Pyenson** (Smithsonian Institution) *Spying on Whales.* April 9, 2021.
- Alison Hill** (Institute for Computational Medicine, Johns Hopkins Univ.) *The Mathematics of Contagion: COVID-19 and Beyond.* April 2, 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.

Laura Micheletti Puaca (Christopher Newport Univ.) *The Search for "Scientific Womanpower": Challenging Gender Stereotypes in STEM in World War II and the Cold War.* March 19, 2021.

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

Martin Hellman (Stanford Univ.) *Rethinking National Security.* March 2, 2021.

Scott Ransom (NRAO) *Arecibo's Pulsar Legacy: nHz-frequency Gravitational Waves With NANOGrav.* February 26, 2021.

Ronald Ferguson (Harvard Kennedy School) *Why and How We Need to Engage Whole Communities in Child Development, Starting From Birth.* February 19, 2021.

Mark Maslin (Univ. College London) *How Celestial Mechanics Influenced Early Human Evolution and Dispersal.* February 12, 2021.

Thomas Wildenberg (Independent Historian and Scholar) *Charles Stark Draper and the Origins of Inertial Navigation.* February 5, 2021.

Stuart Russell (U.C. Berkeley) *Artificial Intelligence: A Modified Approach.* January 29, 2021.

Megan McKenna (Stanford Univ.) *Acoustic Ecology: How Sound Shapes the World Around Us.* January 22, 2021.

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

Matt Zullo (U.S. Navy (ret.)) *The U.S. Navy's on-the-Roof Gang.* January 8, 2021.

David Allison (Indiana Univ. School of Public Health-Bloomington) *Reproducibility and Replicability in Science.* December 11, 2020.

Kerri Phillips and Sylvie DeLaHunt (JHU/APL) *Breaking Down Barriers to Diversity and Inclusion in STEM.* December 4, 2020.

Lewis Dartnell (Univ. of Westminster) *ORIGINS: How the Earth Shaped Human History.* November 20, 2020.

Patrick K. O'Donnell (Historian and Author) *The Unknowns: The Untold Story of the Tomb of the Unknown Soldier and WWI's Most Decorated Heroes Who Brought Him Home.* November 13, 2020.

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

Min-Yang Chou (Univ. Corp. for Atmospheric Research (UCAR)) *The Persistent Impacts of the 2011 Tohoku Earthquake/Tsunami on Ionospheric Space Weather.* October 30, 2020.

Stephen Phillips (JHU/APL) *Two Midshipmen: The Founding of the U.S. Naval Academy*.
October 23, 2020.

Edward S. "Ted" Brodtkin M.D. (Univ. of Pennsylvania Perelman School of Medicine) *Developing a Program to Provide Support in Social Functioning for Adults on the Autism Spectrum*. October 16, 2020.

Douglas M. O'Reagan (Author) *Taking Nazi Technology: Allied Exploitation of German Science After the Second World War*. October 9, 2020.

David Kilcullen (Cordillera Applications Group) *The Dragons and the Snakes: How the Rest Learned to Fight the West*. October 2, 2020.

2019 – 2020

David Albright (Founder and President, Inst. for Science and International Security) *Taiwan's Nuclear Weapons Program: Its History, Dismantlement, and Lessons for Today*. September 23, 2020.

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

Mario Livio (Astrophysicist and Author) *GALILEO and the Science Deniers*. September 11, 2020.

Jennifer Wilcox (Worcester Polytechnic Institute) *A Case for Carbon Dioxide Removal From Air*. September 4, 2020.

LT Brian Gureck (U.S. Navy) *Resolving Bearing Ambiguity With a Single Bio-Inspired Direction Finding MEMS Acoustic Sensor*. August 14, 2020.

Francis Gary Powers Jr. (Founder and Chairman Emeritus, The Cold War Museum) *Spy Pilot: Francis Gary Powers, the U-2 Incident, and a Controversial Cold War Legacy*. August 7, 2020.

James E. "JB" Brown III (National Test Pilot School) *Flying Lockheed's Stealth Fighters*. July 31, 2020.

Walter Gordon (MOOG Space and Defense Group) *Once There Was an Arrow*. July 24, 2020.

Norman Polmar (Analyst, Author, and Consultant) *Surprise! Western Intelligence and Warning Failures*. July 17, 2020.

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

Leonard Rodberg (Queens College/CUNY) *Climate Change, Renewables, and Nuclear Energy: Which Path to Follow?* June 12, 2020.

- Heather Massie** (Fulbright Specialist, Writer/Producer/Performer of "HEDY! The Life & Inventions of Hedy Lamarr") *A Salon Lecture on Hedy Lamarr, Hollywood Screen Siren & Inventor of Spread Spectrum Technology, With Scenes From the Award-Winning, Internationally-Acclaimed "HEDY! The Life & Inventions of Hedy Lamarr."* March 6, 2020.
- Martha Jones** (Johns Hopkins Univ.) *Vanguard: What if Black Women Have Always Led the Movement for Women's Suffrage.* February 27, 2020.
- James E. West** (Johns Hopkins Univ.) *Piezoelectric and Electret Polymers.* February 21, 2020.
- Tim Lattimer** (Environmental Diplomat) *Global Climate Change and Why Local Action Is Vital.* February 14, 2020.
- Bret Kugelmass** (Managing Director, Energy Impact Center) *Nuclear Energy's Role in Achieving Deep Decarbonization to Reverse Climate Change.* February 7, 2020.
- Garrett "Sack" Harencak** (IRES Deputy Program Manager, Jacobs Missile Defense Group) *Five Myths of Nuclear Deterrence.* January 31, 2020.
- Maj. Jarrod Robinson** (US Marine Corps) *Protecting Our Nation's Warriors: Encapsulated Ceramic Spheres vs Monolithic Ceramic Plates for Body Armor Applications.* January 24, 2020.
- Servio H. Ramirez** (Temple Univ.) *Protection, Diagnosis, and Tissue Engineering of the Blood-Brain Barrier: Emerging Concepts to Improve Outcomes in Civilian and Military Traumatic Brain Injury.* January 17, 2020.
- Magnus Nordenman** (Consultant and Author) *The New Battle for the Atlantic: Emerging Naval Competition With Russia in the Far North.* January 10, 2020.
- Lt. Gen. Steve Kwast** (USAF ret.) *The Space Force? Why? When? What For?* January 3, 2020.
- David Sing** (Bloomberg Distinguished Prof. of Astrophysics, Johns Hopkins Univ.) *Hubble's Panchromatic Comparative View of Exoplanet Atmospheres.* December 20, 2019.
- Dian Olson Belanger** (Historian and Author) *Science, Politics, and Peace: Antarctica and the International Geophysical Year.* December 13, 2019.
- Sufi Zafar** (IBM T. J. Watson Research Center) *CMOS Compatible Chemical Sensors for Healthcare Applications.* December 11, 2019.
- John O'Hara** (NSA (ret.)) *Analysis of Soviet Space and Missile Programs During the Early Cold War.* December 6, 2019.
- Nour E. Raouafi** (JHU/APL) *Parker Solar Probe: First Discoveries and Outlook of the Mission.* December 2, 2019.
- Robert Leonhard** (JHU/APL) *Visions of Apocalypse: How Beliefs About the End Times Affect International Relations.* November 22, 2019.

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

Stephen Moore (Author and Journalist) *UNCOMMON VALOR: Recon Company Medal of Honor Heroes of FOB-2*. November 8, 2019.

Lawrence Goldstone (Author) *Going Deep: John Philip Holland and the Invention of the Attack Submarine*. November 1, 2019.

David Blodgett (JHU/APL) *Optical Imaging of the Brain: Is There Really Anything to See?* October 25, 2019.

Larrie D. Ferreiro (George Mason Univ.) *Brothers at Arms: American Independence and the Men of France and Spain Who Saved It*. October 18, 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.

Héctor L. Díaz (Hispanics In History Cultural Organization) *The Hispanic Assistance to the American Revolution*. October 11, 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.

Dave "Bio" Baranek (Author, "TOPGUN Days") *Topgun and Tomcats: High Explosives, Type-a Personalities, and Prandtl–Meyer Expansion Fans*. October 4, 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.

Norman Polmar, RADM Thomas Brooks, and George Fedoroff (Author & Analyst, US Navy (ret.), and ONI) *Admiral Gorshkov: The Man Who Challenged the U.S. Navy*. August 30, 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.
- Douglas Burnett** (Chief Counsel, Maritime Administration, US Dept. of Transportation) *The "Cloud" Is Beneath the Sea: Why International Law of the Sea Is a Critical Factor in the Astonishing Growth of Submarine Cables*. August 2, 2019.
- James "Nick" Ashworth** (NAVAIR Cyber Test and Evaluation Group) *My Experiences Hacking Automobiles, Ships, and Airplanes*. July 12, 2019.
- Walter Gordon** (Niagara Aerospace Museum & MOOG Space and Defense Group) *Project Gemini: Unsung Hero of Neil Armstrong's One Small Step*. June 25, 2019.
- Kevin Baker** (Author) *America the Ingenious: How a Nation of Dreamers, Immigrants, and Tinkerers Changed the World*. June 21, 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.
- Capt. John E. Jackson** (U.S. Navy (ret.)) *One Nation, Under Drones*. May 31, 2019.
- Robert Leonhard and Stephen Phillips** (JHU/APL) *"Little Green Men": A Primer on Modern Russian Unconventional Warfare, Ukraine 2013-2014*. May 24, 2019.
- Sally Mott Freeman** (Author) *The Jersey Brothers: A Missing Naval Officer in the Pacific and His Family's Quest to Bring Him Home*. May 17, 2019.
- Victoria Meadows** (University of Washington & NExSS) *Prospects for Characterizing Terrestrial Exoplanets With the James Webb Space Telescope*. May 10, 2019.
- Ramesh Varma** (Northrup Grumman (ret.)) *Coming to America: Challenges for an Asian-American*. May 3, 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.
- Edward J. Marolda** (Senior Historian, U.S. Navy (ret.)) *Admirals Under Fire: U.S. Naval Leaders and the Vietnam War*. April 12, 2019.

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

Robert R. Leonhard (JHU/APL) *Fighting by Minutes: Time and the Art of War*. April 5, 2019.

Travis Gault and Jeffrey Dunne (JHU/APL) *The Impact of APL's Ongoing Support to US Navy Commander, Task Force 70 (CTF-70)*. March 29, 2019.

Anna L. Buczak (JHU/APL) *Predicting the Future: IARPA Geopolitical Forecasting Challenge and Crystal Cube*. March 22, 2019.

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

Bill Miller (CFA) *The Man Who Beat the Stock Market 15 Years in a Row*. March 14, 2019.

Sean McFate (NDU and Georgetown Univ.) *The New Rules of War*. March 8, 2019.

CPT Todd Howe (U.S. Army) *Thermodynamic Analysis of a Liquid Air Energy Storage System*. March 1, 2019.

Robert Lightfoot Jr. (NASA (ret.); President, LSINC Corp.) *Lessons Learned From Leading NASA*. February 22, 2019.

Antero Pietila (Author) *The Unknown Johns Hopkins – A Pragmatic Opportunist*. February 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.

Peter W Singer (New America) *LikeWar: The Weaponization of Social Media*. February 1, 2019.

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

Richard M. (Dickie) George (JHU/APL) *The Role NSA Played in the Development of DES*. January 18, 2019.

Ross Merlin (DHS NCC Shares Program Manager) *Interoperable Emergency Communications Without Vulnerable Infrastructure – SHARES*. December 14, 2018.

Alan Stern (Southwest Research Institute) *New Horizons: The Farthest Exploration of Worlds*. December 7, 2018.

Sauvik Das (Georgia Tech) *Social Cybersecurity: Reshaping Security Through an Empirical Understanding of Human Social Behavior*. November 30, 2018.

Ashley Ater Kranov (School of Electrical Engineering and Computer Science, Washington State University and President, Global Professional Skills Assessment) *What Can the US Learn From Women's Decisions to Pursue and Persist in Engineering in Diverse Predominantly Muslim Settings?* November 16, 2018.

Dava Sobel (Author) *The Glass Universe: Where Astronomy and Physics Joined Forces.* November 9, 2018.

Dale F. Gray (International Monetary Fund (retired)) *Using Tools From Physics, Feynman, and Finance to Model Macroeconomic Risks in Economies.* November 2, 2018.

Peter A. Wilson (RAND Corp.) *U.S. Military Capabilities and Forces for a Dangerous World—Rethinking the U.S. Approach to Force Planning.* October 26, 2018.

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.

Kimberly Ruiz and Christopher Wood (JHU/APL) *The Impact of APL's Ongoing Support to US Navy Commander, Task Force 70 (CTF-70).* October 12, 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

David Winkler (Naval Historical Foundation) *Incidents at Sea.* September 28, 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.

Justin Conrad (Univ. of North Carolina at Charlotte) *Gambling and War: Risk, Reward, and Chance in International Conflict.* September 7, 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.

Captain Drake Brewster (U.S. Army) *Actinide Isotope Ratios Measured by Resonance Ionization Mass Spectrometry: Optimization of Ionization Schemes and Demonstration Using Nuclear Fallout*. July 13, 2018.

Stephen Phillips (JHU/APL) *Operation Earnest Will*. June 29, 2018.

David Taubenheim (JHU/APL) *(Repeat Presentation) Can You Hear Me Now? Advances in Audio Collection Technology, Machine Learning, and Subterfuge (SECRET Clearance Required)*. June 27, 2018.

Trent Hone (Consultant) *Learning War: The Evolution of Fighting Doctrine in the U.S. Navy, 1898-1945*. June 22, 2018.

Taylor Baldwin Kiland (Author) *Lessons From the Hanoi Hilton*. June 15, 2018.

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

David Taubenheim (JHU/APL) *Can You Hear Me Now? Advances in Audio Collection Technology, Machine Learning, and Subterfuge (SECRET Clearance Required)*. June 1, 2018.

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

Marc Kolodner and Leo Morris (JHU/APL) *Janney Energize: Remote Sensing Solutions for Enhancing Situational Awareness: Part 2*. May 18, 2018.

Marc Kolodner and Leo Morris (JHU/APL) *Janney Energize: Remote Sensing Solutions for Enhancing Situational Awareness: Part 1*. May 11, 2018.

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

George Bibel (Univ. of North Dakota) *Plane Crash: The Forensics of Aviation Disasters*. April 27, 2018.

Tom Glenn (Author) *The Battle of Dak To: The Cassandra Effect*. April 20, 2018.

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

Toni Hiley (CIA Museum Director) *The Art of Intelligence*. April 6, 2018.

Max Hardberger (Vessel Extractions LLC) *Under a False Flag: How Smugglers, Terrorists, and Thieves Use Vessels Under Flags of Convenience to Further and Conceal Illicit Activity*. March 30, 2018.

Chris Singer (NASA Deputy Chief Engineer (Ret.)) *The Engine of Possibility: Accelerating Development*. March 23, 2018.

- Mary Hallward-Driemeier** (World Bank Group) *Trouble in the Making? The Future of Manufacturing-Led Development*. March 20, 2018.
- Brett Denevi** (JHU/APL) *The New Moon*. March 9, 2018.
- Jared Der-Yeghiayan** (Homeland Security Investigations) *Silk Road Online Black Marketplace Investigative Case Briefing*. March 2, 2018.
- Ambassador (retired) Joseph M. DeThomas** (Pennsylvania State Univ.) *Maintaining Equilibrium on the North Korean Nuclear and Missile Crisis*. February 23, 2018.
- Daniel Haulman** (Air Force Historical Research Agency) *The Tuskegee Airmen: The First African American Pilots in American Military Service*. February 16, 2018.
- Carey Lisse** (JHU/APL Space Exploration Sector) *What We Know and Don't Know About 'Oumuamua*. February 15, 2018.
- Howard Eisner** (Professor Emeritus, George Washington Univ.) *Thinking Outside the Box, With Examples and APL-related Stories*. February 9, 2018.
- LT Chester H. Hewitt III** (Aegis BMD Weapon System Directorate, U.S. Navy) *Analysis of Broadband Metamaterial Shielding for Counter-Directed Energy Weapons*. February 2, 2018.
- CAPT Scott Sirois** (NOAA Corps) *The NOAA Corps: Celebrating a Century of Service (1917-2017)*. January 19, 2018.
- Alan Zimm** (JHU/APL) *A Battle Badly Fought: How Wargaming and Human Factors Lost the Battle of the River Plate*. January 12, 2018.
- Catherine Asaro** (Author and SIGMA member) *Science Fiction Goes to Washington*. January 5, 2018.
- Chris Taylor** (Georgetown Univ.) *Hacking for Defense – Or – Harnessing the National Security Talent of America's Graduate Students*. December 15, 2017.
- Robert Fischell** (Fischell Biomedical) *APL Space Technology Leads to Biomedical Devices*. December 8, 2017.
- Beau Backus** (NOAA National Environmental Satellite, Data, & Information Service) *The Electro-Magnetic Spectrum: Is It Big Enough for All of Us?* December 1, 2017.
- Brad Cenko** (NASA Goddard Space Flight Center) *The Dawn of Multi-Messenger Astrophysics: Gravitational Waves and Light Together at Last*. November 17, 2017.
- Tom Glenn** (Author, "Last of the Annamese") *Bitter Memories: The Fall of Saigon*. November 10, 2017.
- Jeffrey Bub** (Univ. of Maryland) *Bananaworld: Quantum Mechanics for Primates*. November 3, 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.

Ann Todd (Author) *OSS Operation Black Mail*. October 9, 2017.

2016 - 2017

Sharon Weinberger (Author) *The Imagineers of War: The Untold Story of DARPA, the Pentagon Agency That Changed the World*. September 22, 2017.

Patrick Peplowski and Rachel Klima (JHU/APL) *Mercury's Dark Secret*. September 8, 2017.

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

Brock Wester and Nathan Crone (JHU/APL and JHU School of Medicine) *Individual Finger Control of the Modular Prosthetic Limb (MPL) Using Electrocorticography (ECoG)*. August 25, 2017.

Nour E. Raouafi and Nicola J. Fox (JHU/APL) *Parker Solar Probe: The Mission's Deep Roots in the History of Solar Eclipses*. August 4, 2017.

Dan Green (The Washington Institute for Near East Policy) *In the Warlords' Shadow: Special Operations Forces, the Afghans, and Their Fight Against the Taliban*. July 21, 2017.

Stephen Phillips (National Security Analysis Department, JHU/APL) *Developing the Proximity Fuze*. June 30, 2017.

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

Chunsheng Wang (Univ. of Maryland) *Advanced Materials for Li-Ion Batteries: Applications in EV Technology and the Impact on DoD Systems*. June 16, 2017.

Sandy Grimes (CIA (Ret.)) *Circle of Treason: A CIA Account of the Traitor Aldrich Ames and the Men He Betrayed*. June 9, 2017.

Kenneth Johnson (Writer, Producer, Director) *Using Popular Science Fiction to Promote Thought, Tolerance and Unity*. June 2, 2017.

- Ravi F. Saraf** (Chemical and Biomolecular Engineering, Univ. of Nebraska – Lincoln) *Single Electron and Single Molecule Devices: Nanoscience to Nanotechnology*. May 26, 2017.
- Russell J. Hemley** (George Washington Univ.) *A New World of Materials in Extreme Environments*. May 19, 2017.
- Michael Bourke** (Chief, Behavioral Analysis Unit, United States Marshals Service) *The Psychology Behind Child Sex Offenders*. May 12, 2017.
- Mitchell Zuckoff** (Boston University) *13 Hours: The Inside Account of What Really Happened in Benghazi*. May 5, 2017.
- Mark Patrick** (Chief, Information Management Division, Joint Staff Secretariat) *A Holistic Approach to Records and Information Management*. April 28, 2017.
- Chris Gould** (NC State Univ.) *Are Fundamental Constants Actually Constant? Nuclear Physics and the Oklo Natural Nuclear Reactors*. April 21, 2017.
- Nick Jellicoe** (Naval Institute Press) *JUTLAND: The Unfinished Battle*. April 14, 2017.
- Barry Gordon** (Johns Hopkins and Johns Hopkins Medicine) *Autism: What Is It, What Can Be Done, What Might Be Done?* April 7, 2017.
- Hans Mair, Bob Ferguson, Mary Anne Espenshade, Danielle Zack, Jennifer Hedlund, Steven Lutz, David Steigerwald, and John Meyer** (JHU/APL) *A Tribute to Scott Joplin*. March 31, 2017.
- Alice Bowman** (JHU/APL) *Reaching for New Horizons*. March 24, 2017.
- Col. William Reeder Jr.** (U.S. Army Ret.) *Through the Valley: My Captivity in Vietnam*. March 17, 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.
- John R. Benedict Jr.** (JHU/APL) *Power and Warfighting in the 21st Century*. February 17, 2017.
- George Percivall** (CTO and Chief Engineer, Open Geospatial Consortium) *Innovations in Geodata Management, Integration and Analytics From the Open Geospatial Consortium*. February 10, 2017.
- John Park** (Harvard Kennedy School Belfer Center) *The Sanctions Paradox: North Korea, Inc.'s Accumulated Learning in Evading Sanctions*. February 3, 2017.
- Timothy J. Jorgensen** (Georgetown Univ.) *Strange Glow: The Story of Radiation*. January 27, 2017.

- Martin Libicki** (U.S. Naval Academy) *Cyberspace in Peace and War*. January 20, 2017.
- Jim Cole** (Special Agent, Cyber Crimes Center, Child Exploitation Investigations Unit, DHS) *Beyond the Image: Using Technology to Identify and Rescue Children of Child Exploitation*. January 13, 2017.
- Col. Douglas Macgregor** (U.S. Army Ret.) *Margin of Victory: Five Battles That Changed the Face of Modern War*. January 6, 2017.
- VADM Mark Fox** (U.S. Navy Ret., VP Customer Relations, Huntington-Ingalls Industries) *Reflections of a Carrier Aviator From 1980 to 2016*. December 16, 2016.
- Alan D. Zimm** (JHU/APL) *The Perils of Technological Transformation: A Critical Analysis of the Attack on the Fleet at Pearl Harbor*. December 7, 2016.
- MG Bob Scales** (U.S. Army Ret.) *Scales on War: The Future of America's Military at Risk*. December 2, 2016.
- Donald M. Goldstein** (Emeritus Professor, Univ. of Pittsburgh) *Pearl Harbor in the Perspective of 75 Years*. November 30, 2016.
- Alfred Scott McLaren** (U.S. Navy Ret., Naval Institute Press) *Silent and Unseen: On Submarine Patrol During the Cold War*. November 16, 2016.
- Andrew Jampoler** (U.S. Navy Ret., Naval Institute Press) *Embassy to the Eastern Courts: America's Secret First Pivot Toward Asia, 1832 - 1837*. November 11, 2016.
- Bob Bailey** (Behavior by Bailey) *A Brief History and Some Applications of Terrestrial, Aerial, and Aquatic Trained Animal Behavior Systems*. November 4, 2016.
- Michael J. Neufeld** (Smithsonian Institution) *The Difficult Birth of NASA's Pluto Mission*. October 28, 2016.
- Antonio DeSimone and Nicholas Horton** (JHU/APL) *Sony's Nightmare Before Christmas: The 2014 Cyber Attack*. October 21, 2016.
- Allison Ratto** (Children's National Health System) *Autism's Full Spectrum: The Clinical Science of Identification and Treatment*. October 14, 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

- Vincent P. Manno** (Olin College of Engineering) *Rethinking Foundational Engineering Education*. September 30, 2016.

BG Robert S. Spalding III (U.S. Air Force) *Economic Elements of Chinese Competition*.
September 23, 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.

Joshua M. Epstein (JHU Department of Emergency Medicine and Center for Advanced Modeling) *Agent Zero and Generative Social Science*. September 2, 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.

MG Richard J. Cripwell CBE (Defence Attaché and Head of the British Defence Staff in the United States) *Better Together? – Lessons and Reflections From a Career in Coalitions*. June 24, 2016.

Emily Riehl (JHU Mathematics Dept.) *A Solution to the Stable Marriage Problem*. June 22, 2016.

Sarah Bergbreiter (Univ. of Maryland College Park) *Tiny Leaps for Robot Kind: Mixing Microfabrication and Robotics*. June 17, 2016.

Jeff Plescia (JHU/APL) *Lost Landers – Unsolved Mysteries*. June 10, 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.

Dwight Hughes (Naval Institute Press) *A Confederate Biography: The Cruise of the CSS Shenandoah*. May 20, 2016.

K. T. Ramesh (JHU Decker Professor of Science & Engineering and Director, Hopkins Extreme Materials Institute) *Keeping Your Head in the Game: The Dynamics of Traumatic Brain Injury*.
May 13, 2016.

Janelle Wong (Univ. of Maryland, Asian American Studies Program and Resource Center) *Asian Americans and the 2016 Election*. May 6, 2016.

Gene J. Blatt (Hussman Institute for Autism) *The Science of Autism*. April 29, 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.
- Andrew Jampoler** (Naval Institute Press) *ADAK: The Rescue of Alfa Foxtrot 586*. April 15, 2016.
- Christine Fox** (JHU/APL) *X11 Strategy Analysis – What We Learned in 2015*. April 8, 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.
- Richard Danzig** (JHU/APL) *The National Security Consequences of Increasing Technological Speed of Change, Complexity, and Coupling*. March 25, 2016.
- Kimberly Scott** (Arizona State University) *Becoming Our Selves in This Digital Age*. March 21, 2016.
- Philip Graff** (JHU/APL) *The Chirp Heard 'Round the World: Gravitational Waves, LIGO, and a New Era of Astronomy*. March 18, 2016.
- ADM Michelle Howard** (Vice Chief of Naval Operations, U.S. Navy) *Cyber War App*. March 4, 2016.
- Philip Mudd** (Consultant; Central Intelligence Agency Ret.) *The HEAD Game: Become a High Efficiency Analytic Decision Maker*. March 4, 2016.
- Hans Mair** (JHU/APL) *U-35 Hurrah, Hurrah, Hurrah!* February 26, 2016.
- Wanda Austin** (Aerospace Corp.) *Diversity and STEM – Building a More Inclusive Future*. February 19, 2016.
- LtCol Seth Folsom** (U.S. Marine Corps) *Where Youth and Laughter Go: With “The Cutting Edge” in Afghanistan*. February 12, 2016.
- LTG Vincent Stewart** (U.S. Marine Corps; Director, Defense Intelligence Agency) *An Evolving Defense Intelligence Enterprise*. February 5, 2016.
- Pierre Thuot** (JHU/APL) *The Power of Teamwork Knows No Limits – AKA Murphy’s Law at Mach 25*. January 29, 2016.
- Harlan Ullman** (The Killowen Group) *A Brains-Based Approach to Strategic Thinking*. January 15, 2016.
- BG Harold “Buck” Adams** (U.S. Air Force Ret., The Potomac Institute) *Operating at the Edge of Space at 2,200 MPH*. January 8, 2016.
- Xuanhong Cheng and James C. M. Hwang** (Lehigh University) *Broadband Electrical Detection of Individual Biological Cells*. December 11, 2015.

J. Michael Wenger (Author) *No One Avoided Danger: NAS Kaneohe Bay and the Japanese Attack of 7 December 1941*. December 10, 2015.

Marc Wortman (Author) *How the Navy Learned to Fly in World War I*. December 4, 2015.

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

Daniel Friedman (National Renewable Energy Laboratory) *Progress and Opportunities for Next-Generation Ultrahigh-Efficiency Multijunction Solar Cells*. November 13, 2015.

James N. Miller (JHU/APL) *When Major Powers Meet in Cyberspace: W(h)ither Strategic Stability?* October 30, 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.

ADM Nirmal Verma (Indian Navy Ret., U.S. Naval War College) *Emerging Maritime Challenges in the Indian Ocean Area: An Indian Perspective*. October 16, 2015.

GEN Bruce Carlson (U.S. Air Force Ret.; Former Director, NRO) *Learning Leadership – We Can All Get Better*. October 9, 2015.

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

2014 – 2015

Jason Benkoski (JHU/APL) *Mimicking Skin: Multifunctional Coatings That Adapt to the Environment and Undergo Self-Repair*. September 25, 2015.

LTG Rhett Hernandez (U.S. Army Ret., Army Cyber Institute, CyberLens LLC) *Cyberspace – An Operational Domain With Significant Challenges and Unprecedented Opportunity*. September 18, 2015.

Brian R. McEnany (Author) *For Brotherhood and Duty: The Civil War History of the West Point Class of 1862*. September 4, 2015.

Bryan Jackson (IBM Research – Almaden) *IBM TrueNorth: A Low-Power Brain-Inspired Computing Processor and Ecosystem*. August 20, 2015.

Michael Eisenstadt (The Washington Institute for Near East Policy) *Martyrdom, Victory, and Expediency in the Decisionmaking of the Islamic Republic of Iran (IRI)*. August 14, 2015.

- Amb. John M. Koenig** (U.S. Department of State) *A Cyprus Solution in 2016? Why This Intractable Conflict Can Be Solved After a Half Century, and What It Could Mean for the United States.* July 30, 2015.
- Ignition Grants Winners** (JHU/APL) *Ignition Grants Intelligent Systems Center Challenge.* July 21, 2015.
- 2015 Hart Prize Winners** (JHU/APL) *The Hart Prizes for Excellence in Independent Research and Development.* July 10, 2015.
- Jane Rigby** (NASA Goddard Space Flight Center) *Galaxy Evolution Over Cosmic Time.* June 26, 2015.
- Ignition Grants Winners** (JHU/APL) *Ignition Grants Mobile Apps Challenge.* June 23, 2015.
- Donna Riley** (Virginia Tech) *LeChatelier and Warhol: Queering the Conventional Career Trajectory in STEM.* June 19, 2015.
- S. Alan Stern** (Southwest Research Institute) *New Horizons: Nothing Like It in the World – The Exploration of Pluto: July 2015.* June 12, 2015.
- Thom LaBean** (North Carolina State Univ.) *Engineering Molecular Assembly for 3D Electronics.* June 5, 2015.
- Rafael Yuste** (Columbia Univ. Neurotechnology Center) *The Novel Neurotechnologies: Simultaneous 3D All-Optical Imaging and Activation of Neurons in Living Brains.* May 29, 2015.
- Geoffrey Ling** (DARPA Biological Technologies Office) *The Future of Medicine.* May 22, 2015.
- Dwight R. Messimer** (Author) *The Baltimore Sabotage Cell and the U-Boat Deutschland, 1915-1918.* May 19, 2015.
- Michael S. Teitelbaum** (Harvard Law School) *Is the U.S. Falling Behind in Science and Engineering? Strengths, Structural Instabilities, and Perennial Controversies.* May 15, 2015.
- John A. Rogers** (Univ. of Illinois at Urbana-Champaign) *Materials for Unusual Forms of Electronics: From 3D Circuits to Water Soluble Sensors.* May 8, 2015.
- Stamatios M. Krimigis** (JHU/APL) *Being There at Inception: From v-2s to Transits to Solar Probe – APL in Space.* May 1, 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.
- LtCol William Hagestad II** (U.S. Marine Corps Ret., Red Dragon Rising) *International Binary Battlefield – Focus the People's Republic of China.* April 21, 2015.

- William Braniff** (National Consortium for the Study of Terrorism and Responses to Terrorism (START)) *Al Qaeda's Jihadism – ISIL's Jihadism: The Making and Remaking of a Modern Ideology*. April 17, 2015.
- Robert Ehrlich** (George Mason Univ.) *The Hunt for the Tachyon*. April 10, 2015.
- Mary Cummings** (Duke Univ. Humans and Autonomy Laboratory) *Man vs. Machine or Man + Machine?* March 27, 2015.
- James L. Green** (NASA Headquarters) *Thaddeus Lowe: Mr. Lincoln's Chief Aeronaut*. March 13, 2015.
- LTG Ronnie Hawkins Jr.** (U.S. Air Force; Director, Defense Information Systems Agency) *Mentoring and Developing Diverse Scientists and Engineers*. March 9, 2015.
- Ignition Grants Winners** (JHU/APL) *Ignition Grants Fall 2014 Healthcare Edition*. March 6, 2015.
- Christine Fox** (JHU/APL) *X11 Strategy Analysis – What Is It, and What Did We Learn?* February 13, 2015.
- Samuel M. Stavis** (National Institute of Standards and Technology) *Nanofabricated Devices, Optical Nanoscopy, and Nanoscale Particles*. January 30, 2015.
- John Steinbruner** (Director, Center for International and Security Studies at Maryland (CISSM)) *Anticipating Climate Change Mitigation*. January 23, 2015.
- Philip Koopman** (Carnegie-Mellon Univ.) *Case Study of Toyota Unintended Acceleration and Software Safety*. January 16, 2015.
- VADM Walter E. Carter Jr.** (U.S. Naval Academy) *Producing Future Leaders of Consequence*. January 9, 2015.
- Thomas Dolby Robertson** (JHU) *The Road to MIDI Hell Is Paved With Great Inventions*. January 5, 2015.
- Steven L. Rolston** (Univ. of Maryland) *Where Is My Quantum Computer?* December 12, 2014.
- Michael Kelly** (JHU/APL) *Multi-Spectral Imaging System: Background and Status*. December 5, 2014.
- Mason Peck** (Cornell Univ.) *Making Space: Opportunities to Transform Space Science and Exploration Thanks to the Commoditization of Spacecraft*. November 21, 2014.
- Neal S. Bergano** (TE Connectivity Subcom) *Undersea Fiber Optic Cables – Enabling a Connected World*. November 14, 2014.
- Beth Laura O'Leary, Milford Wayne Donaldson, P. J. Capelotti, and Ann Garrison Darrin** (Univ. of New Mexico, Milford Wayne Donaldson FAIA Inc., Pennsylvania State Univ., and JHU/APL) *Archaeology and Heritage of the Human Movement Into Space*. November 7, 2014.

Nicky Fox (JHU/APL) *Solar Probe Plus: Humanity's First Visit to Our Star*. October 24, 2014.

Mica R. Endsley (U.S. Air Force Chief Scientist) *Situation Awareness: Current and Future Challenges*. October 17, 2014.

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

Tomás Palacios (Massachusetts Inst. of Technology) *Atom-Thick Materials for the Next Revolution in Electronics*. October 6, 2014.

2013 – 2014

Ignition Grants Winners (JHU/APL) *Ignition Grants Central Spark Edition*. September 19, 2014.

Hassan Abbas (National Defense Univ.) *The Taliban Revival: The India-Pakistan Nuclear Rivalry and U.S. Drawdown in Afghanistan*. September 12, 2014.

Amanda Simpson (Army Energy Initiatives Task Force) *Intersection of Test Flight, Energy, and Vacuum Tubes*. June 18, 2014.

2014 Hart Prize Winners (JHU/APL) *The Hart Prizes for Excellence in Independent Research and Development*. June 13, 2014.

Stuart W. Leslie (JHU Dept. of History of Science and Technology) *Spaces for the Space Age: Southern California's Architecture of Innovation*. May 30, 2014.

Herbert S. Lin (National Research Council) *Reflections on Cyber Warfare: Some Unresolved Policy and Strategic Issues*. May 9, 2014.

Barton P. Miller (Univ. of Wisconsin – Madison) *Software Assurance Marketplace*. May 2, 2014.

Ignition Grants Winners (JHU/APL) *Ignition Grants Fall 2013 Edition*. April 25, 2014.

Dawn Biehler (Univ. of Maryland, Baltimore County) *Back-Alley Ecology: Rats, Homes, and Community in 1940s Baltimore, and Lessons for Urban Ecology Today*. April 17, 2014.

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

Giuseppe D'Aguzzo (Aegis Technologies) *Extraordinary Optical and Acoustic Transmission in Metamaterials*. April 4, 2014.

Amb. Donald P. Gregg (Former Ambassador to the Republic of Korea) *Korea*. March 28, 2014.

Thomas H. Staal (U.S. Agency for International Development) *Syria: Origins of the Conflict*. March 21, 2014.

- Ralph Langner** (Langner Group) *Cyber-Physical Attack Engineering*. March 11, 2014.
- Jon Gertner** (Author) *Revisiting the Idea Factory: What Can Bell Labs Teach Us About Innovation and the Management of Ideas?* March 7, 2014.
- Willie E. May** (National Institute of Standards and Technology) *The National Institute of Standards and Technology (NIST): Its Impact on Innovation, Economic Security, and Quality of Life*. February 28, 2014.
- David Robarge** (Central Intelligence Agency) *Archangel: CIA's Supersonic a-12 Reconnaissance Aircraft*. February 21, 2014.
- Willie Padilla** (Boston College) *Electromagnetic Metamaterials*. January 23, 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.
- Paul Rosenzweig** (Professorial Lecturer in Law, George Washington Univ. School of Law) *Cyber Warfare: The Economics, Policy, and Law of Cyber Conflict*. November 22, 2013.
- Thomas Hazlett** (George Mason Univ.) *The POLITICAL SPECTRUM: Regulators, Interest Groups, and the Struggle to Liberate Wireless Technologies of Freedom*. November 13, 2013.
- Eric W. Boyle** (National Museum of Health and Medicine) *From Quackery to Complementary Medicine: A History of Combating Alleged Health Fraud Since the Early 20th Century*. November 1, 2013.
- Col. Timothy P. Alben** (Massachusetts State Police) *MANAGING RISK: The Boston Marathon and Changing Security for Large Public Gatherings*. October 11, 2013.

2012 - 2013

- Ignition Grants Winners** (JHU/APL) *Ignition Grants Spring 2013 Edition*. August 16, 2013.
- LTG Michael D. Barbero** (U.S. Army Ret.; Former Director, Joint IED Defeat Organization) *The Global and Enduring IED Challenge*. July 19, 2013.
- Nergis Mavalvala** (Massachusetts Inst. of Technology) *Beyond the Quantum Limit in Gravitational Wave Detectors*. June 28, 2013.

- Nader Engheta** (Univ. of Pennsylvania) *Of Waves, Electrons, and Metamaterials*. June 21, 2013.
- Capt. Michael Weiner** (U.S. Navy, DoD/Veterans Affairs Interagency Program Office) *DoD Electronic Health Records*. June 3, 2013.
- B. B. Rath** (Naval Research Laboratory) *Energy After Oil*. May 31, 2013.
- 2013 Hart Prize Winners** (JHU/APL) *The Hart Prizes for Excellence in Independent Research and Development*. May 17, 2013.
- Kevin Kallauger** (The Economist) *From Pen to Pixel: Political Cartoons and the Future of Satire*. May 10, 2013.
- Edward G. Amoroso** (AT&T) *Reinventing Enterprise Network Security*. May 3, 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.
- Vincent W. S. Chan** (Massachusetts Inst. of Technology) *Optical Flow Switching*. April 23, 2013.
- George Lucas** (Naval Postgraduate School) *Legal and Ethical Precepts Guiding Research and Use of Emerging Military Technologies*. April 19, 2013.
- Stephanie Hill** (Lockheed Martin) *Information Technology Systems and Services and STEM*. February 22, 2013.
- Jason Heikenfeld** (Univ. of Cincinnati Novel Devices Laboratory) *Fluidic Devices for Tomorrow's Defense Applications: Displays, Electronics, Biosensors, and More* February 15, 2013.
- John Boice** (National Council on Radiation Protection and Measurements) *NCRP and the Study of a Million U.S. Radiation Workers and Veterans*. February 8, 2013.
- Ignition Grants Winners** (JHU/APL) *Ignition Grants Cycle 5 Colloquium*. January 24, 2013.
- Jason Landrum** (National Oceanic and Atmospheric Administration) *Federal Action to Reduce the Impacts of Marine Debris: Responses to Pervasive Problems and Natural Disaster Events*. January 18, 2013.
- 2012 Hart Prize Winners** (JHU/APL) *The Hart Prizes for Excellence in Independent Research and Development*. November 30, 2012.
- Norman Friedman** (Defense Analyst) *UAVs in Strike Warfare*. November 9, 2012.
- Polly Nayak** (Independent Consultant) *India: Decision Making on External Security Issues*. November 2, 2012.
- Ramon E. Lopez** (Univ. of Texas at Arlington) *The Science of Space Weather*. October 19, 2012.

2011 – 2012

Ignition Grants Winners (JHU/APL) *JHU/APL STEM Ignition Grants*. September 28, 2012.

Soner Cagaptay (The Washington Institute) *Turkey's Foreign Policy Pivot*. September 20, 2012.

Dan Sievenpiper (Univ. of California, San Diego) *Artificial Impedance Surfaces: Passive, Active, and Nonlinear Periodic Structures for Controlling Electromagnetic Surface Currents*. August 24, 2012.

John Nagl (Center for a New American Security) *Learning to Eat Soup With a Knife: Counterinsurgency Lessons From Iraq and Afghanistan*. June 15, 2012.

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

Maj. Joe Thomas and Marc A. Kolodner (U.S. Army and JHU/APL) *Signatures Exploitation in the Transshipment Zone*. May 18, 2012.

Robert Cahalan (NASA Goddard Space Flight Center) *Solar Irradiance and Climate – What's New? What's Next?* May 11, 2012.

Ignition Grants Winners (JHU/APL) *Ignition Grants Cycle 3 Colloquium*. May 4, 2012.

Mark T. Maybury (U.S. Air Force Chief Scientist) *Cyber Vision 2025: Air Force Cyber S&T Vision*. April 11, 2012.

David W. Orr (Oberlin College) *Twenty-First Century Sustainability, Resilience, and National Security*. April 6, 2012.

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

Barbara Slavin (Atlantic Council) *What Should We Do About Iran?* March 16, 2012.

Michael E. O'Hanlon (Brookings Institution) *Bending History?* March 9, 2012.

Vanda Felbab-Brown (Brookings Institution) *The Crime-Militancy Nexus: A Witch's Brew or a Myth?* March 2, 2012.

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

Rengaswamy Srinivasan (JHU/APL) *Advanced Lithium Batteries: One Way to Use, Many Ways to Abuse*. February 3, 2012.

Adam Riess (JHU Dept. of Physics and Astronomy and the Space Telescope Science Institute, 2011 Nobel Prize for Physics) *Dark Energy and the Cosmic Expansion History*. January 27, 2012.

Randolph L. Sullivan (Nuclear Regulatory Commission) *Overview of the Fukushima Daiichi Accident*. January 20, 2012.

Russell H. Taylor (JHU Dept. of Computer Science) *Medical Robotics and Computer-Integrated Interventional Medicine*. January 13, 2012.

Richard Gilly (Patent Attorney) *Weathering the Storm: Patents in the Cloud*. January 6, 2012.

2011 Hart Prize Winners (JHU/APL) *The Hart Prizes for Excellence in Independent Research and Development*. December 9, 2011.

W. P. Andrew Lee (JHU School of Medicine) *Immune Modulation for Hand Transplantation*. December 2, 2011.

Kelly Brunt (NASA GESTAR – Morgan State Univ.) *Antarctic Ice-Shelf Calving Triggered by the Japanese Earthquake and Tsunami, March 2011*. November 18, 2011.

Ignition Grants Winners (JHU/APL) *Ignition Grants Cycle 2 Colloquium*. November 4, 2011.

John R. Schmidt (George Washington Univ.) *The Unraveling: Pakistan in the Age of Jihad*. October 28, 2011.

Isaac Gertman (Israel Oceanographic and Limnological Research) *Amazing Interannual Variability of the Dead Sea Hydrological Regime*. October 21, 2011.

VADM Walter B. Massenburg (U.S. Navy Ret.; President, Association of Naval Aviation and Raytheon Integrated Defense Systems) *Centennial of Naval Aviation ... the Next 100 Years?* October 14, 2011.

2010 – 2011

Carolina Cruz-Neira (Univ. of Louisiana at Lafayette) *A Digital Wonderland: Virtual Reality Applications for Everybody*. September 30, 2011.

Ignition Grants Winners (JHU/APL) *Ignition Grants Cycle 1 Colloquium*. June 17, 2011.

LCDR Mike Touse (Naval Postgraduate School) *Design, Fabrication, and Characterization of a Micromechanical Directional Microphone*. June 10, 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.
- Norman Polmar** (Analyst) *Project Azorian: The CIA and the Raising of the K-129*. March 25, 2011.
- Ren Cahoon** (Archivist) *Gaping Holes in Our History: A Story of Impetuous Innovation*. March 18, 2011.
- David E. Hoffman** (Journalist) *Two Sides of Mikhail Gorbachev at the End of the Cold War: Decisions on Strategic Defenses and Biological Weapons, 1985-1991*. March 11, 2011.
- Marvin W. Barrash** (Author) *U.S.S. Cyclops – Lost Without a Trace*. March 4, 2011.
- Darryll J. Pines** (Univ. of Maryland) *Emerging Non-GPS Navigation Technology for Aerospace Systems*. February 25, 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.
- LCDR Robert Kerchner and Nancy M. Haegel** (Naval Postgraduate School) *Vehicle Mounted Identification Friend or Foe (VMIFF): Leveraging Existing Targeting Systems for Fratricide Mitigation*. January 7, 2011.
- Kathryn Flanagan** (Space Telescope Science Institute) *The James Webb Space Telescope: We Can See the Beginning*. December 10, 2010.
- 2010 Hart Prize Winners** (JHU/APL) *The Hart Prizes for Excellence in Independent Research and Development*. December 3, 2010.
- Virginia W. Lunsford** (United States Naval Academy) *The War Against Piracy: The Golden Age and Now*. November 19, 2010.
- Michael Greenberger** (Univ. of Maryland) *Our Economic Insecurity and Its Relationship to the Overall Security of the Nation*. November 12, 2010.
- Rob Randell** (VMware) *Architecting and Building a Secure Virtual Infrastructure and Private Cloud*. November 5, 2010.
- Peter Volkovitsky** (National Institute of Standards and Technology) *History of the Soviet Nuclear Weapon Project*. October 29, 2010.
- Jonathan Pevsner** (Kennedy Krieger Institute) *The Mind of Leonardo Da Vinci*. October 15, 2010.

Marc A. Kolodner (JHU/APL) *APL Signatures Exploitation Program*. October 8, 2010.

2009 – 2010

Patricia P. Driscoll (Frontline Defense Systems) *The Art of the Possible*. September 23, 2010.

Christos Bolakis and Gamani Karunasiri (Naval Postgraduate School) *MEMS Based Sensors for THz Imaging*. June 3, 2010.

Naim Merheb (JHU/APL) *Doing APL Stuff in Baghdad*. May 26, 2010.

Peter J. McDonnell (JHU Wilmer Eye Institute) *The Wilmer Eye Institute and Health Care Reform*. May 21, 2010.

Michael Berman (Catbird) *Security, Protection, and Compliance for Virtual Infrastructure (And the Cloud) – Building Security Into the Fabric*. May 14, 2010.

Jin U. Kang (JHU Dept. of Electrical and Computer Engineering) *Photonics Applications: Past, Present, and Future*. May 7, 2010.

Deborah Elam (General Electric Company) *Leadership: Transforming Diversity Into Inclusion*. April 23, 2010.

Hrvoje Jasak (Univ. of Zagreb) *OpenFOAM: Object-Oriented Software in Computational Continuum Mechanics*. April 16, 2010.

Howard Cox (U.S. Department of Justice) *Cybercrime Trends 2010*. April 9, 2010.

Joel S. Wit (JHU School of Advanced International Studies) *Will North Korea Give Up Its Nuclear Weapons?* April 2, 2010.

Richard Howard (Verisign iDefense) *2010 Cyber Threats and Trends*. March 26, 2010.

Joshua Epstein (Brookings Institution) *Agent-Based Computational Modeling in Public Health: From Playground to Planet*. March 19, 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.

Joseph S. Francisco (President, American Chemical Society) *Chemistry and Its Role in National Security and the STEM Challenge*. February 25, 2010.

Martin Murphy (Center for Strategic and Budgetary Assessments) *Somali Piracy: The Implications for International Security*. February 19, 2010.

RADM David Titley (Oceanographer and Navigator of the Navy) *The U.S. Navy's Task Force on Climate Change*. January 29, 2010.

Jeffrey S. Bardin (ITSolutions) *Extremist Jihadi Social Networks*. January 22, 2010.

Scott Pace (George Washington Univ.) *International Opportunities and Challenges for U.S. Space Policy*. December 11, 2009.

2009 Hart Prize Winners (JHU/APL) *The Hart Prizes for Excellence in Independent Research and Development*. December 1, 2009.

Roger D. Launius (National Air and Space Museum) *Perspectives on the Past, Present, and Future of Human Spaceflight*. November 20, 2009.

LTG James A. Abrahamson (U.S. Air Force Ret., former director of the Strategic Defense Initiative Organization) *The Strategic Defense Initiative, JHU/APL, and the Cold War*. November 13, 2009.

Brad Parkinson (Stanford Univ.) *The Origins of GPS and the Role of APL in the Technology*. October 27, 2009.

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

Nirdhar Khazanie (Northrop Grumman) *Information Sharing Behind Firewalls*. October 16, 2009.

2008 – 2009

Capt. Mark B. Lyles (U.S. Navy Bureau of Medicine and Surgery) *Medical Geology: Dust Exposure and Potential Health Risks in the Middle East*. September 25, 2009.

RADM Jay A. DeLoach (U.S. Navy Ret., Naval History and Heritage Command) *Hispanic Americans in American Naval History*. September 18, 2009.

Joseph D'Aleo (Meteorologist) *Climate Change*. June 11, 2009.

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

Richard Talbott (JHU/APL) *Information Assurance Lessons From the Past, WWII, and Today*. May 29, 2009.

Martin P. Harmer (Lehigh Univ.) *Complexions: New States of Matter at Interfaces*. May 22, 2009.

Kal Shastri (Lightwire) *Journey of a Physicist in the Engineering World*. May 15, 2009.

Waleed Abdalati (Univ. of Colorado, Cooperative Institute for Research in Environmental Sciences) *Dramatic Changes in Polar Ice: Are We Waking Sleeping Giants?* May 8, 2009.

- George Helfrich** (JHU/APL Ret.) *APL and the U.S. Navy in the Deserts of New Mexico*. April 24, 2009.
- Ned Tillman** (Growth Adventures) *The Chesapeake Watershed – Past, Present, and Future*. April 17, 2009.
- Charles Seife** (New York Univ.) *Fusion, Politics, and the Press*. April 10, 2009.
- Marcus Jones** (U.S. Naval Academy) *U.S. Strategic Bombing in Doctrine and Practice in World War II: The Case of the European Theater*. April 3, 2009.
- James C. M. Hwang** (Lehigh Univ.) *RF MEMS Technology for Space Applications*. March 27, 2009.
- Giles Dorransoro** (Carnegie Endowment for International Peace) *Focus and Exit: An Alternative Strategy for the Afghan War*. March 13, 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.
- Slava Rotkin** (Lehigh Univ.) *Transistor Channels “Flying” a Few Nanometers Above the Surface: Novel Physics of “Empty” Space*. February 20, 2009.
- Denise Gray** (General Motors Engineering) *Reinventing GM and the Automobile: From Batteries to Sustainability*. February 13, 2009.
- Erik van Ommeren** (Sogeti U.S.A. LLC) *Me the Media: Rise of the Conversation Society*. February 6, 2009.
- Steven Brams** (New York Univ.) *Mathematics and Democracy: Designing Better Voting and Fair-Division Procedures*. January 30, 2009.
- Tom Vanderbilt** (Author) *Objects in Mirror Are More Complicated Than They Appear: Looking Into Traffic*. January 23, 2009.
- Mario Livio** (Space Telescope Science Institute) *Is God a Mathematician?* January 16, 2009.
- John Adam** (Old Dominion Univ.) *“Guesstimation:” Fermi Problems, Orders of Magnitude, and the Goldilocks Principle*. January 9, 2009.
- Marcus Noland** (Peterson Institute for International Economics) *Arab Economies: Recent Accomplishments and Long-Term Challenges*. December 12, 2008.
- Shanker Singham** (International Law) *A General Theory of Trade and Competition: Trade Liberalization and Competitive Markets*. December 5, 2008.
- 2008 Hart Prize Winners** (JHU/APL) *The Hart Prizes for Excellence in Independent Research and Development*. November 21, 2008.

Col. David W. Lamm (U.S. Army Ret., National Defense Univ.) *Asymmetry and Change in Future Warfare*. November 14, 2008.

Shuja Nawaz (Strategic Analyst) *Crossed Swords: Pakistan, Its Army, and the Wars Within*. November 7, 2008.

Ellen Ochoa (Astronaut, NASA Johnson Space Center) *Hispanic Heritage Month Colloquium*. October 24, 2008.

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

2007 – 2008

Anh N. Duong (Science Advisor, Office of the CNO, Pentagon) *Naval Explosives*. May 23, 2008.

Beth Laura O’Leary (New Mexico State Univ.) *Space Archeology and the Lunar Legacy: One Giant Leap for Historic Preservation*. May 16, 2008.

Kenneth Budka (Alcatel-Lucent Bell Labs) *Public Safety Wireless Broadband*. May 9, 2008.

Brandon Southall (National Oceanic and Atmospheric Administration) *Marine Mammals and Noise: Science Applications and Perspectives on a Contentious (And Misrepresented) Issue*. May 2, 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) *African-American Technological Contributions: Past, Present, and Future*. February 20, 2008.

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) *Upper Atmosphere: Gateway Region for Solar-Terrestrial Interaction*.
January 4, 2008.

Spencer Wells (National Geographic Society) *Deep Ancestry: Inside the Genographic Project*.
December 14, 2007.

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) *The Hart Prizes for Excellence in Independent Research and Development*. November 30, 2007.

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

Sky Alibhai and Zoe Jewell (WildTrack) *WildTrack: A Synergy of Wild Beasts, Ancient Tracking Skills, and Modern Techniques for Footprint Identification*. November 7, 2007.

David Mindell (Massachusetts Inst. of Technology) *Digital Apollo: Human and Machine in Six Lunar Landings*. November 5, 2007.

Ernest A. Seglie (Office of the Secretary of Defense, Director of Operational Test and Evaluation) *The Costs of Unsuitability and Benefits of Building-in Reliability, Availability, and Maintainability*.
October 26, 2007.

William B. Scott (Author) *Space Wars: The First Six Hours of World War III*. October 12, 2007.

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

2006 – 2007

Andrew F. Cheng (JHU/APL) *A Tale of Two Asteroids, or Catastrophic Disruption Revisited*.
September 28, 2007.

Gadi Evron (Security Evangelist, Beyond Security) *Estonia: Information Warfare and Strategic Lessons*. August 24, 2007.

Jeff Barr (Amazon Web Services) *Building a “Web-Scale Computing” Architecture*. June 6, 2007.

William Dunham (Muhlenberg College) *A Tribute to Euler*. June 1, 2007.

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

MG David P. Fridovich (U.S. Army, USSOC PAC) *War on Terror in Asia, “Basilan Model” and Indirect Approach*. May 16, 2007.

S. Fred Singer (Science and Environmental Policy Project) *Origin of the Moon*. May 4, 2007.

- Greg Jackson** (Univ. of Maryland, College Park) *Solid Oxide Fuel Cells: Challenges for Applications Beyond Hydrogen*. April 27, 2007.
- Alan Moloff** (Consultant) *Special Operations and Disaster Medicine. Common Challenges! Common Solutions?* April 4, 2007.
- James G. Rickards** (Global-I Advisors, LLC) *Theory and Practice of the New Science of Market Intelligence*. March 23, 2007.
- Zee Duron** (Harvey Mudd College) *Field Procedures for Tracking Stability in Burning Buildings*. March 16, 2007.
- Dwayne Meadows** (National Oceanic and Atmospheric Administration) *Riding the World's Biggest Wave: Preparedness and Recovery Lessons From the 2004 Indian Ocean Tsunami in Thailand*. March 2, 2007.
- Ronald Kelly** (Federal Bureau of Investigation) *Forensic Aspects of Explosion/Bombing Investigations*. February 23, 2007.
- Isaiah Blankson** (NASA Glenn Research Center) *Aeronautical Research Activities in Hypersonics at the NASA Glenn Research Center*. February 16, 2007.
- Bruce Campbell** (Smithsonian Institution) *What Lies Beneath? Using Radar to Look Below the Surface of the Moon and Mars*. February 9, 2007.
- David Jacobson** (National Institute of Standards and Technology) *Using Neutron Radiography to Study Hydrogen Fuel Cells*. February 2, 2007.
- James Bamford** (Author) *NSA: A History of Domestic Eavesdropping*. January 19, 2007.
- R. Alan King** (Author) *Iraq: The Past, the Present, and the Way Ahead*. January 12, 2007.
- Barry Geldzahler** (NASA) *Next Generation Deep Space Network: Vision for the Next 100 Years*. January 5, 2007.
- 2006 Hart Prize Winners** (JHU/APL) *The Hart Prizes for Excellence in Independent Research and Development*. December 15, 2006.
- John R. Benedict Jr.** (JHU/APL) *Taking a Long-Term Perspective on U.S. Navy ASW Objectives, Capabilities, and Trends (Historical Survey and Projections, 1940-2020)*. December 8, 2006.
- Robert W. Farquhar and Joseph Veverka** (JHU/APL and Cornell Univ.) *The Next Steps in Human Space Exploration: What Are the Alternatives?* December 1, 2006.
- Michael Vlahos** (JHU/APL) *Productive Deterrence: Preserving America at Modernity's End*. November 16, 2006.
- Michael Krieger** (Office of the DoD Chief Information Officer) *Transforming the Way DoD Shares Information*. November 3, 2006.

Robb Wilcox (JHU/APL) *The Chief of Naval Operations Strategic Studies Group – Science Advisor’s Perspective*. October 20, 2006.

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

2005 – 2006

Christopher Coker (London School of Economics) *Ethics of the Long War*. May 24, 2006.

RADM William J. McDaniel (U.S. Navy Ret.) *Faces of the Tsunami*. May 19, 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.

Col. Geoffrey Ling (U.S. Army, Defense Advanced Research Projects Agency) *Revolutionizing Prosthetics*. April 26, 2006.

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David F. Dinges (Univ. of Pennsylvania) *Sleep, Fatigue, and Stress: Monitoring Human Behavioral Capability*. April 12, 2006.

Harold Schmitz (Chief Scientist, Mars Inc.) *The Science of Cocoa and Chocolate: What Do Migratory Birds and Nitric Oxide Synthesis Have in Common?* March 31, 2006.

BG Victor N. Corpus (Armed Forces of the Philippines, Ret.) *The Assassin’s Mace: A Worst Case Scenario for the New American Century*. March 24, 2006.

Michael A. Roberto (New York Univ. Stern School of Business) *Why Great Leaders Don’t Take Yes for an Answer: Managing for Conflict and Consensus*. March 17, 2006.

Ted G. Kamatchus (Sheriff, Marshall County, Iowa) *A Sheriff’s View of Homeland Security*. March 10, 2006.

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

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Tom Voltaggio (U.S. Environmental Protection Agency) *Responding to Weapons of Mass Destruction Incidents and Natural Disasters*. October 14, 2005.

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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.

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Terry Collins (Carnegie-Mellon Univ.) *Green Chemistry*. May 11, 2001.

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Capt. David M. Schubert (U.S. Navy, Office of Naval Research) *Naval Science and Technology Initiatives*. November 17, 2000.

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James Mayfield (JHU/APL) *Intelligent Web Searching*. June 2, 2000.

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RADM Rodney P. Rempt and RADM Michael G. Mullen (U.S. Navy) *U.S. Navy in the 21st Century*. April 7, 2000.

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Arthur Bienenstock (White House Office of Science and Technology Policy) *National Science Policy*. March 5, 1999.

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Michael Kleinberger (National Highway Traffic Safety Administration) *Safety of Automobile Passengers: Biomechanical Testing and Analysis*. October 24, 1997.

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

Kenneth Dere (Naval Research Laboratory) *Solar Corona and Solar Wind: A New View*. October 10, 1997.

Wayne A. Bryden (JHU/APL) *Tiny Time-of-Flight (TOF) Mass Spectrometer for Biosensing*. October 3, 1997.

1996 – 1997

Robert W. Farquhar (JHU/APL) *Missions to Comets and Asteroids: Past, Present, and Future*. May 16, 1997.

Jeffrey D. Abramson (Brandeis Univ.) *Electronic Democracy: Implications of the New Technologies*. May 9, 1997.

David E. Bloom (Harvard Univ.) *Demographic Transitions and Economic Miracles*. May 2, 1997.

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

Paul D. Feldman (JHU Dept. of Physics and Astronomy) *Recent Observations of Comets*. April 18, 1997.

Edward R. Scheinerman (JHU Dept. of Mathematical Science) *Circular Reasoning: From Partially Ordered Sets to Special Relativity*. April 11, 1997.

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

Dava Sobel (Author) *Longitude*. March 21, 1997.

Daniel H. Reich (JHU Dept. of Physics and Astronomy) *Magnetism in Arrays of Superconducting Rings*. March 14, 1997.

Lucy-Ann McFadden (Univ. of Maryland, College Park, Dept. of Astronomy) *Making Sense of the Remote Sensing of Planetary Surfaces*. March 7, 1997.

Fred H. Proctor (NASA Langley Research Center) *Interaction of Aircraft Wakes With the Ground and Atmosphere*. February 28, 1997.

Vera C. Rubin (Carnegie Inst. of Washington) *Multispin Galaxies*. February 14, 1997.

Peter Shor (AT&T Laboratories) *Quantum Computing and Error Correction*. February 7, 1997.

Daniel Kleppner (Massachusetts Inst. of Technology) *Bose-Einstein Condensation*. January 31, 1997.

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

Gilbert B. Chapman II (Chrysler Corp.) *Nondestructive Evaluation of Automotive Materials*. January 17, 1997.

Frederick Jelinek (JHU Dept. of Computer Engineering) *Speech-Related Research in the United States*. January 10, 1997.

Neil M. Zimmerman (National Inst. of Standards and Technology) *Counting and Storing Electrons, One by One*. December 13, 1996.

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.

James G. Neal (JHU Milton S. Eisenhower Library) *Technology and the Future of Scholarly Communications*. November 15, 1996.

Henry W. Kendall (Massachusetts Inst. of Technology, 1990 Nobel Prize for Physics) *Disposal of Nuclear Waste*. November 8, 1996.

Gerard Piel (Scientific American) *Population, Environment, and Development*. November 1, 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.

James C. Spall (JHU/APL) *The Simultaneous Perturbation Method for System Optimization*. October 4, 1996.

1995 – 1996

Ralph L. McNutt Jr. (JHU/APL) *A New Perspective on the Solar Neutrino Problem*. May 17, 1996.

Robert S. Langer Jr. (Massachusetts Inst. of Technology) *Polymeric Delivery Systems for Drug Delivery and Tissue Engineering*. May 10, 1996.

Dimitri T. Azar (JHU Wilmer Eye Inst.) *Refractive Surgery*. May 3, 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.
- Michael Unser** (National Institutes of Health) *Fast Algorithms for Wavelet Transforms*. March 15, 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.
- Daniel E. Prober** (Yale Univ.) *Hot-Electron Physics and Detectors in Superconductors*. February 16, 1996.
- Capt. L. Edward Antosek** (U.S. Navy, U.S.S. Abraham Lincoln) *U.S. Navy Telemedicine*. February 9, 1996.
- Jan Hines** (AT&T Microelectronics) *Japanese Manufacturing Methodologies and Practices*. January 26, 1996.
- Ludwig Brand** (JHU Dept. of Biology) *Macromolecular Confirmations by Picosecond Spectroscopy*. January 19, 1996.
- Joel E. Cohen** (Rockefeller Univ.) *Population Growth and Earth's Human Carrying Capacity*. January 5, 1996.
- Thomas A. Potemra** (JHU/APL) *A Century of Polar Expeditions*. December 15, 1995.
- Rama Chellappa** (Univ. of Maryland, College Park) *Context-Based Exploitation of Aerial Images*. December 8, 1995.
- Stuart L. Pimm** (Univ. of Tennessee) *The Future of Biodiversity*. December 1, 1995.
- William S. Seegar** (U.S. Army Edgewood Research, Development, and Engineering Center) *Space Technology and Natural Resource Conservation*. November 17, 1995.
- Arthur F. Davidsen** (JHU Dept. of Physics and Astronomy) *Observations of Intergalactic Helium With the Hopkins Ultraviolet Telescope*. November 10, 1995.

Tim V. Cranmer (National Federation of the Blind and The Braille Research Center) *Pencils, Pictures, and Computers: Technologies for the Blind in Sight*. November 3, 1995.

Maynard L. Hill (JHU/APL Ret., Consultant on UAV) *World Record Model Aeroplanes*. October 27, 1995.

Noah Rifkin (U.S. Dept. of Transportation) *Advanced Technology Needs and Applications in Transportation*. October 20, 1995.

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

Frederick S. Billig (JHU/APL) *Missions Technology and Prospects for Hypersonic Flight*. October 6, 1995.

1994 – 1995

John J. Wozniak (JHU/APL) *Advanced Natural Gas Vehicle Development*. May 26, 1995.

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

Charles M. Lieber (Harvard Univ., Dept. of Chemistry) *High-Temperature Superconductors: Probing the Magnetic Flux Lines*. May 12, 1995.

James J. Valdes (U.S. Army Edgewood Research, Development, and Engineering Center) *Destruction of the World's Chemical Agent Stockpiles: Alternative Technologies and Political Issues*. May 5, 1995.

Erica Schoenberger (JHU Dept. of Geography and Environmental Engineering) *Corporate Transformations: Culture, Strategy, and Competitiveness*. April 28, 1995.

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

David H. DeVorkin (National Air and Space Museum) *APL's Participation in the v-2 Era*. April 14, 1995.

Donald G. Saari (Northwestern Univ., Dept. of Mathematics) *Mathematical Complexity of Simple Economics*. April 7, 1995.

John Wack (National Inst. of Standards and Technology) *Internet Security*. March 24, 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.

- William N. Sharpe Jr.** (JHU Dept. of Mechanical Engineering) *Tensile Testing of Small Specimens*.
March 3, 1995.
- Mark O. Robbins** (JHU Dept. of Physics and Astronomy) *Molecular Mechanisms for Friction*.
February 24, 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.
- Steven L. Rolston** (National Inst. of Standards and Technology) *Laser-Cooled Atoms: The Coldest
Thing Around*. January 27, 1995.
- Sankar Das-Sarma** (Univ. of Maryland, College Park) *Self-Organized Critical Phenomena: Non-
Equilibrium Growth*. January 20, 1995.
- Maria T. Zuber** (JHU Dept. of Earth and Planetary Sciences) *Shape and Internal Structure of the
Moon From the Clementine Mission*. January 13, 1995.
- Leon Cohen** (Hunter College and City Univ. of New York) *Time-Frequency-Scale Description of
Signals*. January 6, 1995.
- James W. Wagner** (Johns Hopkins Univ.) *Measuring Dimensions With Light*. December 16, 1994.
- Azriel Rosenfeld** (Univ. of Maryland, College Park) *Perspectives on Computer Vision*. December 9,
1994.
- Holland C. Ford** (Johns Hopkins Univ.) *Searching for Black Holes*. December 2, 1994.
- Charles S. Peskin** (New York Univ. Courant Inst. of Mathematical Sciences) *Muscle and Blood: A
Computer Model of the Heart*. November 18, 1994.
- Andrew F. Cheng** (JHU/APL) *Near Earth Asteroid Rendezvous: APL's First Planetary Mission*.
November 4, 1994.
- Ho Jung Paik** (Univ. of Maryland, College Park) *Superconducting Gravity Gradiometers: Design and
Applications*. October 28, 1994.
- James S. Langer** (Univ. of California, Santa Barbara) *Dynamics of Earthquakes and Fracture*.
October 21, 1994.
- Frederick C. Wellstood** (Univ. of Maryland, College Park) *Magnetic Microscopy Using
Superconducting Sensors*. October 14, 1994.

Ernest P. Gray (JHU/APL Ret.) *Reminiscence of My Association With APL Colloquia*. October 7, 1994.

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Richard B. Kershner, Ray Yuan, and Kim Richeson (JHU/APL) *Transportation Research at APL*. May 27, 1994.

David B. Weishampel (Johns Hopkins Univ.) *Under Our Feet: The Dinosaurs of the East Coast*. May 20, 1994.

Rao R. Tummala (Georgia Inst. of Technology) *Status and Challenges in Multichip Packaging*. May 13, 1994.

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

Thomas L. Carroll (Naval Research Laboratory) *Synchronizing Chaotic Circuits*. April 29, 1994.

Holland C. Ford (JHU and Space Telescope Science Inst.) *New Results From the Hubble Space Telescope*. April 22, 1994.

Lori S. Goldner (National Inst. of Standards and Technology) *Kicking and Splitting Atomic Beams With Light*. April 15, 1994.

Eugene W. Shoemaker (U.S. Geological Survey) *The Crash of Periodic Comet Shoemaker-Levy 9 on Jupiter*. April 8, 1994.

Robert W. Massof (Johns Hopkins Univ.) *Low-Vision Enhancement: Applications of Virtual Environments*. April 1, 1994.

S. Fred Singer (Univ. of Virginia and The Science and Environmental Policy Project) *Stratospheric Ozone: Politically Correct and Other Views*. March 25, 1994.

Charles V. Meneveau (Johns Hopkins Univ.) *Self-Similarity of Fractals and Turbulent Flows*. March 18, 1994.

Ivars Peterson (Science News) *Chaos in Newton's Clock: The Historical Origins of Chaos Theory*. March 11, 1994.

G. R. Pasternack (Johns Hopkins Univ.) *Tackling the Diagnostic Dilemmas of Prostate Cancer by Molecular Approaches*. March 4, 1994.

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

Alan D. Sloan (Iterated Systems Inc.) *Fractal Image Compression for Pattern Recognition*. February 18, 1994.

- Joseph L. Katz** (Johns Hopkins Univ.) *Formation of Mixed-Oxide Powders in Flames: Processes, Products, and Industrial Applications.* February 4, 1994.
- Catherine C. Fenselau** (Univ. of Maryland, Baltimore County) *Biological Applications of Mass Spectrometry.* January 21, 1994.
- Francis P. Kuhajda** (Johns Hopkins Univ.) *New Approaches to the Diagnosis and Treatment of Breast Cancer.* January 14, 1994.
- Kenneth L. Koch** (Pennsylvania State Univ. Hershey Medical Center) *Motion Sickness: Stomach and Hormone Responses During Nausea.* January 7, 1994.
- James D. Franson** (JHU/APL) *Nonlocality in Quantum Optics: From Paradox to Practical Applications.* December 17, 1993.
- Ted W. Keller** (IBM Federated Sector Services Corp.) *Providing Quality Software for the Space Shuttle.* December 10, 1993.
- Joseph Weber** (Univ. of Maryland, College Park) *New Approaches to Neutrino Detection.* December 3, 1993.
- William H. Murray** (Deloitte and Touche) *Security, Audit, and Control of Client-Server Computer Architectures.* November 19, 1993.
- Thomas P. Hughes** (Univ. of Pennsylvania) *Managing Polaris: An Historical Perspective.* November 12, 1993.
- P. James Peebles** (Princeton Univ.) *Cosmology – Past, Present, and Future.* November 5, 1993.
- Carl E. Fichtel** (NASA Goddard Space Flight Center) *The Compton Gamma-Ray Observatory: New Eyes to View the Universe.* October 29, 1993.
- Albert Wattenberg** (Univ. of Illinois) *The Birth of the Nuclear Age: December 2, 1942.* October 22, 1993.
- Stanford R. Ovshinsky** (Energy Conversion Devices, Inc.) *The Nickel-Metal Hydride Battery for Electric Vehicles.* October 15, 1993.
- C. M. Varma** (AT&T Bell Laboratories) *Why High-Temperature Superconductivity Is Such an Important Problem.* October 8, 1993.
- Robert W. Flower** (JHU/APL) *Developing, Using, and Marketing a New Technology for Visualizing Ocular Blood Flow.* October 1, 1993.

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Klaus H. Jacob and Leonardo Seeber (Columbia Univ. Lamont-Doherty Observatory) *Earthquake Hazards in Eastern North America and the Recent Earthquake Sequence Near Columbia, Maryland.* May 28, 1993.

Donald J. Williams (JHU/APL) *The NASA Galileo Program: Mission to Jupiter.* May 21, 1993.

K. Lande (Univ. of Pennsylvania) *Present Status of Solar Neutrino Observations and Plans for New Experiments.* May 14, 1993.

Anthony F. Garito (Univ. of Pennsylvania) *The Nonlinear Optics of Organic Systems.* May 7, 1993.

Daniel R. Baum (Hughes Aircraft – Hughes Training, Inc.) *Virtual Reality: Applications, Requirements, and Promise.* April 30, 1993.

John B. Fenn (Yale Univ., 2002 Nobel Prize for Chemistry) *Electrospray Mass Spectrometry: Wings for Molecular Elephants.* April 23, 1993.

Haris N. Koutsopoulos (Massachusetts Inst. of Technology) *Intelligent Vehicle-Highway Systems.* April 16, 1993.

Joel Darmstadter (Resources for the Future) *Policy Options for Managing the Greenhouse Problem.* April 9, 1993.

Eleanor Chelimsky (Government Accounting Office) *Interactions of Social Science and Public Policy.* April 2, 1993.

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

Robert K. Adair (Yale Univ.) *The Physics of Baseball.* March 19, 1993.

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

John D. G. Rather (NASA Headquarters) *Asteroid and Comet Impact Hazards and Potential Mitigation Methods.* March 5, 1993.

J. V. Badding (Pennsylvania State Univ.) *High-Pressure Chemistry of Hydrogen in Metals.* February 26, 1993.

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

Henryk Wozniakowski (Columbia Univ.) *The Curse of Dimensionality.* February 12, 1993.

Robert R. Birge (Syracuse Univ.) *The Biochemistry of the Visual Process.* February 5, 1993.

- Chia-Ling Chien** (Johns Hopkins Univ.) *Giant Magneto-Transport Properties in Artificially Structured Solids*. January 29, 1993.
- C. Kumar N. Patel** (AT&T Bell Laboratories) *Photonics*. January 22, 1993.
- A. F. Karr** (Univ. of North Carolina and National Inst. of Statistical Sciences) *Buy the Number? A Probabilistic Analysis of the Maryland State Lottery*. January 15, 1993.
- William L. Ditto** (College of Wooster) *Controlling Cardiac Chaos*. January 8, 1993.
- Robert G. Greenler** (Univ. of Wisconsin, Milwaukee) *Some Atmospheric Optical Phenomena: Rainbows, Halos, and Glories*. December 18, 1992.
- Peter Riesz** (National Cancer Inst.) *Some Chemical Effects of Ultrasound*. December 11, 1992.
- Ka-Che Yip** (Univ. of Maryland, Baltimore County) *Medical Modernization in China: The Search for a Chinese Model*. December 4, 1992.
- Lawrence Hunter** (National Library of Medicine) *Mega-Classification of Protein Sequences*. November 20, 1992.
- Eugene J. Hinman, R. L. Trapp, and Lewis H. Zitzman** (JHU/APL) *The Fleet Systems Department in the New World Order*. November 13, 1992.
- J. Anthony Tyson** (AT&T Bell Laboratories) *Mapping Cosmic Dark Matter*. November 6, 1992.
- Larry B. Wolff** (Johns Hopkins Univ.) *Polarization Vision*. October 30, 1992.
- James A. Fill** (Johns Hopkins Univ.) *The Mathematics of Card Shuffling and a Self-Organizing List Scheme*. October 23, 1992.
- Ingrid Daubechies** (Rutgers Univ. and AT&T Bell Laboratories) *Wavelets – An Overview*. October 16, 1992.
- 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

- Donald L. Eddins, John M. Watson, and Ronald L. Wilson** (JHU/APL) *Strategic Systems Department – The Challenges of the Past and the Promise of the Future; The Birth of SSD (1955-1964); APL Involvement in Containing Soviet Expansionism; The 90s and Beyond*. September 11, 1992.

- J. R. Austin, Christina Myles-Tochko, Mark A. Baker, Jeffrey L. Hanson, and R. J. Taylor** (JHU/APL) *The Ocean Environment: Introduction; Global Ocean Characteristics; Internal Ocean Dynamics; Sound in the Ocean; Remote Sensing of the Ocean.* July 10, 1992.
- D. M. Pardoll** (Johns Hopkins Univ.) *Molecular Engineering of the Anti-Tumor Immune Response.* June 12, 1992.
- John C. Sommerer** (JHU/APL) *Confronting Chaos Theory With Experiments.* June 5, 1992.
- Vitaly L. Ginzburg** (Russian Academy of Sciences, Lebedev Physical Inst., 2003 Nobel Prize for Physics) *High Temperature Superconductivity.* June 1, 1992.
- Albert A. Galeev** (Inst. for Space Research, Russia) *Space Research in the Former Soviet Union.* May 29, 1992.
- Steven Muller** (Twenty-First Century Foundation) *Technology and Society in the 21st Century.* May 15, 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.
- S. Leslie Misrock** (Pennie and Edmonds) *Planning for and Surviving the Patent Wars of the 1990s.* April 24, 1992.
- Eric D. Young** (Johns Hopkins Univ.) *Information Processing in the Auditory System.* April 17, 1992.
- John Dassoulas, George C. Weiffenbach, William H. Guier, Alexander Kossiakoff, Carl O. Bostrom, Vincent L. Pisacane, and Stamatios M. Krimigis** (JHU/APL) *Thirty-Five Years of Space Science at the Applied Physics Laboratory.* April 10, 1992.
- George W. Wetherill** (Carnegie Institution of Washington) *The Formation of the Solar System.* April 3, 1992.
- C. W. Francis Everitt** (Stanford Univ.) *Testing of Einstein in Space: A Marriage of Physics and Technology.* March 27, 1992.
- Murray Feshbach** (Georgetown Univ.) *Health and Environmental Crises in the Former Soviet Union.* March 20, 1992.
- Andrea Prosperetti** (Johns Hopkins Univ.) *The Sound of Bubbles.* March 13, 1992.
- Alan J. Krupnick** (Resources for the Future) *The Cost and Benefits of Smog Control.* March 6, 1992.
- Steven H. Hanke** (Johns Hopkins Univ.) *Transforming the Russian Economy.* February 28, 1992.

- Arthur F. Hebard** (AT&T Bell Laboratories) *C₆₀: From Soot to Superconductivity*. February 21, 1992.
- T. Mitchell** (North Carolina State Univ.) *A Fault-Tolerant Super Network of the U.S. Air Force's Major Operational Commands*. February 14, 1992.
- P. Meakin** (DuPont Co.) *Droplet Coalescence: Physics Applications and Aesthetics*. February 7, 1992.
- Stephen P. Maran** (NASA Goddard Space Flight Center) *What the Hubble Telescope Is Telling Us*. January 31, 1992.
- Jagdish Narayan** (National Science Foundation and North Carolina State Univ.) *Emerging Areas in Materials Research*. January 24, 1992.
- Christopher J. Burrows** (JHU Space Telescope Science Inst.) *Fixing the Hubble Space Telescope*. January 17, 1992.
- G. R. Uhl** (Johns Hopkins Univ. and National Inst. for Drug Abuse) *Structure of the Dopamine Transporter: Receptor for Cocaine and Parkinson's Disease Neurotoxins*. January 10, 1992.
- Gerald Cook** (George Mason Univ.) *Two Topics in Robotics: Kinematic Redundancy and Uncertain Environments*. January 3, 1992.
- Emil Wolf** (Univ. of Rochester) *The Redshift Controversy and Correlation-Induced Changes in Spectra*. December 13, 1991.
- Calvin F. Quate** (Stanford Univ.) *Imaging and Surface Modification With Scanning Probes: The Tunneling and Force Microscopes*. December 6, 1991.
- Peter C. Searson** (Johns Hopkins Univ.) *Light-Emitting Porous Silicon Structures*. November 22, 1991.
- Robert E. Kanigel** (Johns Hopkins Univ.) *Ramanujan: The Man Who Knew Infinity*. November 8, 1991.
- Leonard Shlain** (Author) *Art and Physics: Parallel Visions in Space, Time, and Light*. November 1, 1991.
- Fereydoon F. Family** (Emory Univ.) *Dynamics of Fractal Surfaces*. October 25, 1991.
- Praveen Chaudhari** (IBM T. J. Watson Research Center) *Critical Current, Grain Boundaries, and SQUIDS in the High Temperature Superconductors*. October 18, 1991.
- Alexander J. Dessler** (Rice Univ.) *The Dirigible and the Space Shuttle: An Historic Analogy*. October 11, 1991.
- Quentin E. Dolecek** (JHU/APL) *Scientific Visualization With Personal Computers*. October 4, 1991.

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W. H. Munk (Scripps Inst. of Oceanography) *Global Acoustics*. September 27, 1991.

Eliot A. Cohen (JHU School of Advanced International Studies) *American Strategy After Desert Storm*. June 7, 1991.

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

Marc A. Kastner (Massachusetts Inst. of Technology) *The Single Electron Transistor*. May 17, 1991.

Thomas C. Schelling (Univ. of Maryland, 2005 Nobel Prize for Economics) *Meeting the Greenhouse Challenge*. May 10, 1991.

Phillip G. Nelson (National Institutes of Health) *Electrical Activity and Development of the Nervous System*. April 26, 1991.

Roald Z. Sagdeev (Univ. of Maryland) *Crisis of the Soviet Space Science Program*. April 19, 1991.

Katherine J. Strandburg (Northwestern Univ. and Argonne National Laboratory) *Phase Transitions in Limited-Connectivity Neural Networks*. April 12, 1991.

Richard E. Smalley (Rice Univ., 1996 Nobel Prize for Chemistry) *C₆₀: Chapter Two*. March 29, 1991.

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

Samuel T. Durrance and Arthur F. Davidsen (JHU Center for Astrophysical Sciences) *The Hopkins Ultraviolet Telescope: An Odyssey in Space and Time*. March 19, 1991.

Mark A. Reed (Yale Univ.) *Quantum Semiconductor Nanostructures: Physics and Applications*. March 8, 1991.

Donald L. Price (Johns Hopkins Univ.) *The Neurobiology of Alzheimer's Disease and Animal Models: Mechanisms of Disease and Prospects for Therapy*. March 1, 1991.

Horst L. Stormer (AT&T Bell Laboratories, 1998 Nobel Prize for Physics) *Optics With Two-Dimensional Electrons*. February 22, 1991.

Ronald E. Gots (National Medical Advisory Service) *Toxins and Health: Science vs. Perception*. February 15, 1991.

Michael E. Prise (AT&T Bell Laboratories) *Optical Computation Using SEEDs (Self-Electro-Optic Effect Devices)*. February 8, 1991.

- Jerry R. Williams** (Johns Hopkins Univ.) *Treatment of Cancer With Radiolabeled Antibodies*. February 1, 1991.
- Moise H. Goldstein** (Johns Hopkins Univ.) *Speech Processing by Real and Silicon Ears*. January 25, 1991.
- Dwight L. Jaggard** (Univ. of Pennsylvania) *Fractal Electrodynamics*. January 18, 1991.
- Ralph R. Weichselbaum** (Univ. of Chicago) *Molecular Mechanisms for Radiation Metabolism in Tumor Cells*. January 4, 1991.
- Carl E. Wieman** (JILA and Univ. of Colorado, 2001 Nobel Prize for Physics) *Developments in Laser Trapping and Cooling*. December 14, 1990.
- Wayne M. Itano** (National Inst. of Standards and Technology) *The Quantum Zeno Effect*. December 7, 1990.
- Guy M. McKhann** (Johns Hopkins Univ.) *Approaches to the Neurobiology of Language*. November 30, 1990.
- Raymond G. Roble** (National Center for Atmospheric Research) *Modeling the General Circulation of the Thermosphere/Ionosphere and the Response to Solar Variability*. November 16, 1990.
- Bassam Z. Shakhshiri** (Univ. of Wisconsin) *Communicating Science*. November 9, 1990.
- Gerald M. Masson** (Johns Hopkins Univ.) *Software Fault Tolerance Using Certification Trails*. November 2, 1990.
- Ronald M. Atlas** (Univ. of Louisville) *Bioremediation of Oil Spills*. October 26, 1990.
- Edwin L. Turner** (Princeton Univ.) *Gravitational Lensing and Cosmology*. October 19, 1990.
- James A. Yorke** (Univ. of Maryland) *Chaos and Fractals in the Forced Damped Pendulum*. October 12, 1990.
- Kevin E. Trenberth** (National Center for Atmospheric Research) *Global Warming and Recent Climate Change: Observation and Modeling*. October 5, 1990.

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- Edmond C. Roelof** (JHU/APL) *Global Imaging of Planetary Magnetospheres*. September 28, 1990.
- Paul H. Nitze** (JHU School of Advanced International Studies) *From Hiroshima to Glasnost: Reflections on Four Perilous Decades*. June 15, 1990.
- Michael W. Roth** (JHU/APL) *Neural Networks, Machine Vision, and Automatic Target Recognition*. June 1, 1990.

- Joseph Zyss** (Centre National d'Études des Télécommunications) *Symmetry, Chemistry, and Optics: Approach to Molecular Engineering in Nonlinear Optics*. May 18, 1990.
- Donald J. Kessler** (NASA Johnson Space Center) *Orbital Debris: Implications for Spacecraft Operations*. May 11, 1990.
- Salvatore R. DiNardi** (Univ. of Massachusetts, Amherst) *Indoor Air Quality*. May 4, 1990.
- Alexander Szalay** (Johns Hopkins Univ.) *Correlations of Galaxies on a Cosmic Scale*. April 27, 1990.
- Daniel J. Kleitman** (Massachusetts Inst. of Technology) *Computational Complexity and Economics*. April 20, 1990.
- Reinhold C. Mann** (Oak Ridge National Laboratory) *Mobile Robotics for Nuclear-Energy-Related Applications*. April 13, 1990.
- Anthony R. Eastham** (Queen's Univ., Canada) *Magnetically Levitated Trains*. April 6, 1990.
- Thomas S. Mang** (Roswell Park Memorial Inst.) *Clinical Treatment of Various Cancer Types by Means of Photodynamic Therapy*. March 30, 1990.
- Alfred Y. Wong** (Univ. of California, Los Angeles) *Active Global Experiments for Preserving the Ozone Layer*. March 23, 1990.
- D. F. Strobel** (Johns Hopkins Univ.) *The Atmospheres of the Outer Planets and Their Satellites*. March 16, 1990.
- A. Refik Kortan** (AT&T Bell Laboratories) *Scanning Tunneling Microscope Observations of Nonperiodic Crystals*. March 9, 1990.
- Edward C. Stone** (California Inst. of Technology) *The Voyager Encounter With Neptune*. March 1, 1990.
- Nancy W. Boggess** (NASA Goddard Space Flight Center) *The Initial Cosmic Background Explorer (COBE) Results*. February 23, 1990.
- Joseph J. Tribbia** (National Center for Atmospheric Research) *Modern Weather Prediction*. February 16, 1990.
- Zlatko Tesanovic** (Johns Hopkins Univ.) *Superconductivity in a Very High Magnetic Field*. February 9, 1990.
- Roderick V. Jensen** (Yale Univ.) *Chaos in Classical and Quantum Systems: From Atoms to Asteroids*. February 2, 1990.
- Samuel A. Werner** (Univ. of Missouri, Columbia) *The Aharonov-Bohm Effect With Neutrons*. January 26, 1990.

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Hatten S. Yoder (Carnegie Institution) *Heat Transfer in Magma Generation.* February 26, 1982.

Victor L. Granatstein (Naval Research Laboratory) *The Gyrotron.* February 19, 1982.

John R. Apel (JHU/APL) *Solitons and Pirates in the Sulu Sea.* February 12, 1982.

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

J. Thomas August (Johns Hopkins Univ.) *Some Uses of Monoclonal Antibodies.* January 29, 1982.

John M. McQuillan (Bolt, Beranek, and Neuman) *Sending Electronic Mail Over Computer Networks.* January 22, 1982.

Larry W. Sumney (U.S. Department of Defense) *The DoD Very High Speed Integration (VHSIC) Program: Goals and Directions.* January 15, 1982.

Morton H. Friedman (JHU/APL) *Geometric Risk Factors for Arteriosclerosis.* January 8, 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.

Elliott Montroll (Univ. of Maryland) *On Some Dynamical Models of Socio-Technical Systems*.
November 13, 1981.

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

Alan G. MacDiarmid (Univ. of Pennsylvania, 2000 Nobel Prize for Chemistry) *The Electrochemistry of Polyacetylene, (CH)_x: 'Organic Batteries.'* October 30, 1981.

Wilbur L. Pritchard (Satellite Systems Engineering, Inc.) *Direct-Broadcasting Satellites in the United States*. October 16, 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.

1980 – 1981

David M. Gates (National Bureau of Standards) *The Ecological Impact of Energy*. June 5, 1981.

Carlton M. Caves (California Inst. of Technology) *Gravitational Wave Detection Confronts the Uncertainty Principle*. May 8, 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.

Stephen G. Bush (Science Teacher) *Scopes Revisited? Must Public Schools That Teach Evolution Give Equal Time to Creationism in Science Classes?* April 10, 1981.

Paul K. Seidelman (U.S. Naval Observatory) *The Perplexing Planet Pluto*. April 3, 1981.

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

- James Van Allen** (Univ. of Iowa) *The Magnetosphere of the Planets*. March 20, 1981.
- W. Edwards Deming** (Engineer) *Some Serious Problems That Hinder Productivity*. March 6, 1981.
- I. S. Sacks** (Carnegie Inst. of Washington) *Slow Earthquakes*. February 27, 1981.
- Bradford A. Smith** (Univ. of Arizona) *The Continuing Adventures of Voyager I: The Saturn Encounter*. February 20, 1981.
- Gabor Domokos** (Johns Hopkins Univ.) *Modern Gauge Theories for Pedestrians*. February 13, 1981.
- Takeshi Egami** (Univ. of Pennsylvania) *Defects in Amorphous Solids*. February 6, 1981.
- John B. Garrison and Robert E. Jenkins** (JHU/APL) *Automating Medical Image Analysis*. January 30, 1981.
- Bernard G. Campbell** (Univ. of California Los Angeles) *The Evolution of Intelligence and Language*. January 23, 1981.
- James L. Gould** (Princeton Univ.) *The Case for Magnetic Sensitivity in Birds and Bees (Such as It Is)*. January 16, 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.
- Charles C. Counselman** (Massachusetts Inst. of Technology) *Very Long Baseline Radio Interferometry*. December 12, 1980.
- Theodore B. Taylor** (Princeton Univ.) *District Heating and Cooling*. December 5, 1980.
- Samuel J. Williamson** (New York Univ.) *Evoked Magnetic Fields of the Human Brain*. November 21, 1980.
- Donald M. Jansky** (U.S. Dept. of Commerce) *The New World Order of the Radio Spectrum*. November 14, 1980.
- Thomas C. Van Flandern** (U.S. Naval Observatory) *Is the Gravitational Constant Changing?* November 7, 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.
- Robert I. Tilling** (U.S. Geological Survey) *Mount St. Helens 1980*. October 17, 1980.

Robert A. Makofski (JHU/APL) *Transportation in Atlantic City: The Casinos Give Better Odds.* October 10, 1980.

Joseph H. Taylor (Univ. of Massachusetts, 1993 Nobel Prize for Physics) *Gravitational Waves and the Binary Pulsar.* October 3, 1980.

1979 – 1980

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

Robert W. Flower (JHU/APL) *The Role of Oxygen in Retinopathy: A 14-Year APL-Wilmer Institute Cooperative Study.* May 30, 1980.

Abraham H. Oort (Princeton Univ.) *The Role of the Oceans in the Earth's Heat Balance.* May 16, 1980.

Joseph S. Weiner (Univ. of London) *The Piltdown Man Hoax: Whodunit?* May 9, 1980.

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

Walter E. Massey (Argonne National Laboratory) *National Laboratories: What Are They? What Do They Do? Who Cares?* April 25, 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.

Allan S. Greenberg (U.S. Dept. of State) *Impressions of Soviet Science and Technology.* April 4, 1980.

Daniel Nathans (Johns Hopkins Univ., 1978 Nobel Prize for Physiology/Medicine) *The New Genetics.* March 28, 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.

Phillip E. Leakey (The Leakey Collection) *Fossils to Footprints: Olduvai Gorge and Laetoli, Tanzania.* March 11, 1980.

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

- Arthur C. Eberle** (Columbia Gas System Service Corp.) *A Gas Industry Perspective on Future Energy Resources*. February 29, 1980.
- Aihud Pevsner** (Johns Hopkins Univ.) *Quarks, Gluons ... a Walk Through the Garden of Elementary Particles*. February 22, 1980.
- Dennis C. Pirages** (Univ. of Maryland) *Designing a Global Future: Some Reflections on the New Social Paradigm*. February 15, 1980.
- Norman C. Pickering** (Southampton Hospital) *The Physics of Violins*. February 8, 1980.
- Robert D. Thulman** (Thulman Eastern Corporation) *Fireplaces and Woodburning Stoves*. February 1, 1980.
- James N. Galloway** (Univ. of Virginia) *The Acid Rain*. January 25, 1980.
- Owen M. Phillips** (Johns Hopkins Univ.) *An Overview of Our Energy Future*. January 18, 1980.
- Hoyt C. Hottel** (Massachusetts Inst. of Technology) *Technical – Congressional Interaction on Synthetic Fuel Production*. January 11, 1980.
- John A. O’Keefe** (NASA Goddard Space Flight Center) *The Riddle of Tektites*. January 4, 1980.
- Kenneth M. Case** (Rockefeller Univ.) *Solitons: Their Origin and Behavior*. December 14, 1979.
- Ernest A. Stern** (Univ. of Washington) *Structure Determination by X-Ray Absorption (EXAFS)*. December 7, 1979.
- James A. Yorke** (Univ. of Maryland) *Chaotic Dynamics*. November 30, 1979.
- Dorothy Nelkin** (Cornell Univ.) *Science as a Source of Political Conflict*. November 16, 1979.
- K. L. Chopra** (Indian Inst. of Technology and Cornell Univ.) *Thin-Film Solar Cells: CdS-Cu₂S Heterojunctions*. November 9, 1979.
- Bernard J. Carr** (Cambridge Univ.) *The Anthropic Principle and the Structure of the Physical World: Does the Existence of Life Determine the Physical Constants?* November 2, 1979.
- Richard B. Frankel** (Frances Bitter National Magnet Laboratory) *A Navigational Compass in Magnetic Bacteria*. October 26, 1979.
- Norman C. Rasmussen** (Massachusetts Inst. of Technology) *What Does the 1975 Reactor Safety Study Predict Concerning the Accident at Three Mile Island?* October 19, 1979.
- Raymond C. Shreckengost** (Central Intelligence Agency) *An Overview of System Dynamics and Some Applications*. October 12, 1979.
- Gordon L. Dugger** (JHU/APL) *Ocean Thermal Energy Conversion*. October 5, 1979.

1978 – 1979

Edmund Skellings (Florida International Univ.) *A Vision of Information*. September 12, 1979.

Bradford A. Smith (Univ. of Arizona) *Rendezvous With a Giant: The Jupiter System as Seen by Voyager Cameras*. June 15, 1979.

Reuven Leopold (Pratt and Whitney) *Future Technology Alternatives in Warship Design*. June 1, 1979.

Aaron Wildavsky (Inst. for Policy and Management) *No Risk Is the Highest Risk of All*. May 25, 1979.

Stamatios M. Krimigis (JHU/APL) *The Magnetosphere of Jupiter – A View From Voyager I*. May 18, 1979.

Donald A. Henderson (Centers for Disease Control) *Problems of Immunization in the Developing World*. May 11, 1979.

Paul S. Sarbanes (U.S. Senate) *Current Trends in Congress*. May 4, 1979.

Alvin M. Weinberg (Inst. for Energy Analysis) *Reflections on the Energy Wars*. May 4, 1979.

Jacques R. Maroni (Ford Motor Company) *Alternative Fuels for Transportation – Economic and Technical Factors*. April 27, 1979.

Max Dresden (State Univ. of New York) *Thermodynamics of Black Holes*. April 20, 1979.

Banesh Hoffman (Queen's College) *Albert Einstein: The Scientist and the Man*. April 13, 1979.

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

Gareth M. Green (Johns Hopkins Univ.) *Science and Technology in Environmental Medicine*. March 30, 1979.

Dennis J. Stanford (Smithsonian) *Evidence for the Earliest Man in North America*. March 23, 1979.

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

H. T. Kung (Carnegie-Mellon Univ.) *Some Recent Advances in Computer Algorithms*. March 9, 1979.

Alphonse Chapanis (Johns Hopkins Univ.) *Interactive Communication – Some Findings From Laboratory Studies*. March 2, 1979.

Channing L. Ewing (Naval Aerospace Medical Research) *Human Response to Inertial Forces*. February 23, 1979.

Sergei Kitaigordorodskii (Johns Hopkins Univ.) *Some Aspects of the Wind Wave Spectrum.* February 16, 1979.

Paul B. MacCready (Aerovironment) *Man Powered Flight: The Gossamer Condor.* February 9, 1979.

Richard S. Alben (GE Research Lab) *Photovoltaic Electricity From Concentrated Sunlight.* February 2, 1979.

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

Herbert Friedman (Naval Research Laboratory) *Neutron Stars, Black Holes, and the Shape of the Universe.* January 19, 1979.

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

Cody Pfanstiehl (Metro) *Update on Metro – The Public Transportation Revolution.* January 5, 1979.

W. Ross Adey (VA Loma Linda Hospital) *Brain Tissue Interactions With Weak Electromagnetic Fields.* December 8, 1978.

J. Imbrie (Brown Univ.) *Orbital Theory of the Ice Ages.* December 1, 1978.

Noel Vietmyer (National Academy of the Sciences) *Exploiting Unconventional Plants as Resources in the 1980s.* November 10, 1978.

Paul C. Lauterbur (SUNY Stony Brook, 2003 Nobel Prize for Physiology or Medicine) *Nuclear Magnetic Resonance Zeugmatographic Imaging: Applications in Medicine.* November 3, 1978.

W. J. Spencer (Sandia Laboratories) *An Electronic Pancreas for Diabetics.* October 27, 1978.

J. H. Simmons (Catholic Univ. of America) *Fixation of Radioactive Waste in High-Silica Glass.* October 20, 1978.

J. A. Krumhansl (National Science Foundation) *The Evaluation of Applied Theoretical Concepts for Nondestructive Evaluation.* October 13, 1978.

L Gleason (Marine Hydroelectric Development Corp.) *Opportunities and Problems of Hydroelectric Development at Existing Dams.* October 6, 1978.

1977 – 1978

T. A. Potemra (JHU/APL) *The Aurora Polaris: The Greatest Light Show on Earth.* September 29, 1978.

- Birute Galdikas-Brindamour** (L. S. B. Leakey Foundation) *Orangutans and Hominid Evolution*. June 16, 1978.
- Stanley Corrsin** (Johns Hopkins Univ.) *The Soaring Flight of Birds*. June 2, 1978.
- R. E. Green** (Johns Hopkins Univ.) *Some Innovative Techniques in Nondestructive Testing*. May 26, 1978.
- L. Donley** (Lamu Museum, Kenya) *The Role of a Museum in a Developing Country*. May 19, 1978.
- J. Winger** (Chase Manhattan Bank) *The Financial Realities of an Adequate Energy Supply*. May 12, 1978.
- W. R. Powell** (JHU/APL) *Capturing the Sun's Heat for Future Use*. May 5, 1978.
- P. R. McHugh** (Johns Hopkins Univ.) *The Control of the Ingestion of Calories in Feeding Behavior*. April 28, 1978.
- F. A. Long** (Cornell Univ.) *A Set of Questions on U.S. Military R&D: For What and How Much?* April 21, 1978.
- C. R. Johnson** (Univ. of Maryland) *The Impossibility of Group Decisions*. April 14, 1978.
- R. Ramaty** (NASA Goddard Space Flight Center) *Gamma Ray Lines in Astrophysics*. April 7, 1978.
- P. Achinstein** (Johns Hopkins Univ.) *Some Paradoxes of Confirmation in Science*. March 31, 1978.
- J. W. Kendrick** (George Washington Univ.) *Relationships Between R&D and Productivity/Economic Growth*. March 24, 1978.
- Sam Koslov** (Office of Assistant Secretary of the Navy) *Electromagnetic Radiation: Its Impact on Biology and on Technical Operations*. March 17, 1978.
- V. Brannigan** (Univ. of Maryland) *Converting Scientific Fact Into Legal Evidence*. March 10, 1978.
- B. M. Zuckerman** (Univ. of Maryland) *The Search for Extraterrestrial Intelligence*. March 3, 1978.
- R. M. Hamilton** (U.S. Geological Survey) *Earthquake Prediction*. February 24, 1978.
- Robert R. Newton** (JHU/APL) *The Crime of Claudius Ptolemy*. February 17, 1978.
- W. M. Brown** (Hudson Inst.) *Optimal Energy Paths*. February 10, 1978.
- Ronald L. Rivest** (Massachusetts Inst. of Technology) *A New Encryption Method*. February 3, 1978.
- Victor L. Granatstein** (Naval Research Laboratory) *Ultrahigh Power Microwave Pulses From Intense Relativistic Electron Beams*. January 27, 1978.
- Edward R. Harrison** (Univ. of Massachusetts) *Has the Sun a Companion Star?* January 6, 1978.

Jogish Pati (Univ. of Maryland) *Basic Left-Right Symmetry in Nature: Its Implication for Atomic Parity and Electron-Positron Colliding Experiments.* December 16, 1977.

Bruce Smith and Joseph Karlesky (Columbia Univ. and Franklin and Marshall College) *The State of Academic Science.* December 9, 1977.

Norman Augustine (Martin Marietta Corporation) *Projecting Future Defense Capabilities.* December 2, 1977.

Bennett Miller (U.S. Dept. of Energy) *The Role of Inexhaustible Energy Resources in Solving the Energy Crisis.* November 18, 1977.

Sidney M. Mintz (Johns Hopkins Univ.) *Sugar, Culture, and Power – An Anthropological View.* November 11, 1977.

David Adler (Massachusetts Inst. of Technology) *Amorphous Semiconductors.* November 4, 1977.

Maurice M. Shapiro (Harvard Univ.) *Hunting for Neutrinos Deep Under the Ocean.* October 28, 1977.

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

Heinz Gerischer (Fritz Haber Institut) *Semiconductor Electrodes in the Electrochemical Conversion of Solar Energy.* October 14, 1977.

Kishin Moorjani (JHU/APL) *Disordered Magnetism.* October 7, 1977.

1976 – 1977

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

James Weiss (Johns Hopkins Univ.) *Some New Uses of Ultrasound in Cardiology.* May 20, 1977.

J. Imbrie (Brown Univ.) *Orbital Theory of the Ice Ages.* May 13, 1977.

James R. Heirtzler (Woods Hole Oceanographic Inst.) *Exploration of Mid-Ocean Ridges by Submersibles.* May 6, 1977.

John R. Carruthers (Bell Telephone Laboratories) *Optical Fiber Guides for Lightwave Communication.* April 29, 1977.

Vernon B. Mountcastle (Johns Hopkins Univ.) *Brain Mechanisms for Visual Attention.* April 15, 1977.

Farah Usmani (United Nations Environmental Program) *Energy Options for Developing Countries.* April 8, 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.
- E. G. D. Cohen** (Rockefeller Univ.) *The Quest for the Absolute Zero of Temperature*. March 18, 1977.
- Colin Crook** (Motorola Semiconductor Products) *Future Microcomputers and Technologies: A Perspective*. March 11, 1977.
- Roberto Poljak** (Johns Hopkins Univ.) *Structure and Function of Immunoglobulins*. March 4, 1977.
- R. M. May** (Princeton Univ.) *Simple Ecological Models With Very Complicated Dynamics*. February 25, 1977.
- Abel Wolman** (Johns Hopkins Univ.) *Solid Waste Disposal*. February 18, 1977.
- Eric Baer** (Case Western Reserve Univ.) *Tendon Structure and Aging*. February 11, 1977.
- Robert Zwanzig** (Univ. of Maryland) *Molecular Motion in Liquids*. February 4, 1977.
- John D. Morgan** (U.S. Bureau of Mines) *The U.S. Mineral Position*. January 28, 1977.
- Otto Scherer** (Hydronautics Incorporated) *An Overview of Sailing Yacht Propulsion*. January 21, 1977.
- Joseph Sucher** (Univ. of Maryland) *What Is the World Made Of?* January 14, 1977.
- William Levendahl** (Naval Ship Research and Development Center) *Superconductive Naval Propulsion Systems*. January 7, 1977.
- Edward Blum** (Energy Research and Development Agency) *Catastrophy Theory and Some Potential Applications*. December 17, 1976.
- P. A. Hanle** (National Air and Space Museum) *The Coming of Age of Erwin Schroedinger: His Quantum Statistics of Ideal Gases*. December 10, 1976.
- J. M. D. Coey** (Univ. of Grenoble) *Novel Magnetic Structures in Amorphous Solids*. December 3, 1976.
- Maxine Singer** (National Institutes of Health) *The Scientific and Social Issues Raised by Recombinant DNA Research*. November 12, 1976.
- 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.

Jordan Lewis (National Bureau of Standards) *Technology, Economics, and Public Policy*. October 22, 1976.

Robert Long (Johns Hopkins Univ.) *Circulations and Salt Distributions in Estuaries*. October 15, 1976.

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

Robert E. Fischell (JHU/APL) *Pain Relief by Electrostimulation*. October 1, 1976.

1975 – 1976

R. E. Gibson (JHU/APL) *Reflections on the Origin and Development of APL*. June 4, 1976.

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

Leon Madansky (Johns Hopkins Univ.) *New Particles*. May 7, 1976.

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

David Harrje (Princeton Univ.) *Energy Conservation in the Home*. April 23, 1976.

John Cooney (Drexel Univ.) *Applications of Raman Scattering to Remote Sensing*. April 16, 1976.

Paul Bosco (Georgetown Univ.) *Linguistic Models in Second Language Instruction*. April 9, 1976.

J. H. Olsen (Flow Research Inc.) *Cutting With High Speed Water Jets*. April 2, 1976.

Walter G. Berl (JHU/APL) *Research on Fire Related Problems*. March 26, 1976.

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

Ruth Patrick (Academy of Natural Sciences) *Ecological Effects of Various Energy Sources*. March 12, 1976.

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

Donald W. Simborg (Johns Hopkins Univ.) *Patient Information Systems – The Johns Hopkins Experience*. February 27, 1976.

Alan Fowler (IBM Watson Research Center) *Inversion Layers on Silicon Surfaces*. February 13, 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.

- Paul Handler** (Univ. of Illinois) *Computer Predictions of Energy Atmospheric Effects*. January 23, 1976.
- Howard A. Glickstein** (Howard Univ.) *Title VII – Ten Years Later*. January 16, 1976.
- Robert Park** (Univ. of Maryland) *Low Energy Electrons as a Probe of a Solid Surface*. January 9, 1976.
- Shyke A. Goldstein** (Univ. of Maryland and Naval Research Laboratory) *Intense Electron and Ion Beams*. December 18, 1975.
- Arthur E. Hess** (Consultant, Social Security Administration) *Social Security – Past, Present, and Future*. December 12, 1975.
- E. Bright Wilson** (Harvard Univ.) *Coping With the Secondary Consequences of New Technology*. November 21, 1975.
- Michael Beer** (Johns Hopkins Univ.) *Studies of Macromolecular Structure With the Scanning Electron Microscope*. November 7, 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.
- Oswald Roels** (Columbia Univ.) *Artificial Upwelling: Power, Fresh Water, and Food From Deep Water and Sunshine*. October 17, 1975.
- M. C. Waddell** (JHU/APL) *Vehicle Management in Automatic Rapid Transit*. October 10, 1975.
- George M. Temmer** (Rutgers Univ.) *What We Can Learn About Very Short Time Intervals ($\sim 1e-18$ S) by the Crystal Blocking Technique*. October 3, 1975.

1974 – 1975

- Helen Hopfield** (JHU/APL) *Tropospheric Effects on Satellite Range Measurements*. May 23, 1975.
- Alfred J. Cote** (JHU/APL) *Harbor Traffic Safety*. May 16, 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.
- Irwin Schneider** (Naval Research Laboratory) *Holography Using Anisotropic Centers in Alkali Halides*. March 28, 1975.
- Roy R. Johnson** (KMS Fusion Inc) *Laser Driven Compression Experiments and Their Implication for Laser Pellet Fusion*. March 21, 1975.
- Hong-Yee Chiu** (Goddard Inst. for Space Studies) *Problems of Intense Magnetic Fields in Astrophysics*. March 14, 1975.
- Earl Callen** (American Univ.) *Phase Transitions in Social Systems*. March 7, 1975.
- Gerald K. O'Neill** (Princeton Univ.) *The Colonization of Space*. February 21, 1975.
- Wernher Von Braun** (Fairchild Industries) *Communications Satellites – Space Science Turns to the Needs of Man*. February 14, 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.
- Kenneth E. Iverson** (IBM) *APL for APL*. January 17, 1975.
- Frank Wallach** (United Automobile Workers of America) *Occupational Health and Safety*. January 10, 1975.
- N. C. Rasmussen** (Massachusetts Inst. of Technology) *Nuclear Reactor Safety*. January 3, 1975.
- H. E. Stanley** (Massachusetts Inst. of Technology) *How Does an Ion Get Through a Membrane?* December 20, 1974.
- H. B. Callen** (Univ. of Pennsylvania) *The Physics of Magnetic Bubbles*. December 13, 1974.
- D. Bryceson** (Univ. of Oxford) *Research on National Parks and the Serengeti*. December 6, 1974.
- M. Harvey Brenner** (Johns Hopkins Univ.) *Special Problems Associated With National Economic Instability*. November 22, 1974.
- Merrill Hessel** (National Bureau of Standards) *Heat Pipe Ovens and Applications to High Energy Lasers*. November 15, 1974.
- B. R. Stokes** (American Public Transit Association) *Some Problems With Mass Transit*. November 8, 1974.
- K. W. Boer** (Univ. of Delaware) *Results From the Experimental Solar House (Solar I)*. October 31, 1974.
- J. F. Stocky** (Jet Propulsion Laboratory) *Reducing Automobile Emission Through Enrichment of Gasoline*. October 18, 1974.

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

Gabor Domokos (Johns Hopkins Univ.) *Resonances, Partons, and Scaling: A Theorist Reviews Some Recent Experiments*. October 4, 1974.

1973 – 1974

A. W. Trivelpiece (U.S. Atomic Energy Commission) *Progress Toward Controlled Thermonuclear Fusion*. June 21, 1974.

Frank Satkiewicz (JHU/APL) *Mass Spectrometry of Solids*. May 31, 1974.

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

R. N. Silver (Los Alamos Scientific Laboratories) *Electron Hole Condensation in Semiconductors*. May 3, 1974.

Harold Masursky (U.S. Geological Survey) *Exploration of Mars*. April 26, 1974.

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

Amar Bose (Massachusetts Inst. of Technology) *Recording and Reproduction of Music*. April 12, 1974.

Theodore B. Taylor (International Research and Development Corporation) *Nuclear Theft – Risks and Safeguards*. March 29, 1974.

Roberto Poljak (Johns Hopkins Univ.) *Three Dimensional Structure of Human Immunoglobulin*. March 22, 1974.

David J. Rose, Warren A. Roberts, and John W. Wilson (MIT, Phillips Petroleum, and Energy Consultant) *Panel Discussion: Oil Resources and Energy Policy*. March 14, 1974.

K. C. Hoffman (Brookhaven National Laboratory) *Hydrogen Energy Systems – Near and Long Term Prospects*. March 8, 1974.

J. F. Bell (Johns Hopkins Univ.) *A Modern Perspective on 18th and 19th Century Experiments in the Physics of Solids*. March 1, 1974.

S. P. Maran (NASA Goddard Space Flight Center) *Comet Kahoutek in Retrospective*. February 22, 1974.

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

James Van Allen (JHU/APL and Univ. of Iowa) *The Pioneer 10 Encounters Jupiter*. February 8, 1974.

Owen M. Phillips (Johns Hopkins Univ.) *Breaking Waves and Ocean White Caps*. February 1, 1974.

D. M. Gilford (National Academy of Sciences) *Can a Statistician Influence Policy in American Education?* January 25, 1974.

P. O. Clark (Hughes Research Labs) *Recent Developments in Laser Technology*. January 18, 1974.

H. D. Mills (IBM Federal Systems) *Math as Structured Programming or How to Cut the Gordian Knot*. January 11, 1974.

Irving S. Cooper (St. Barnabas Hospital) *The Present and Potential Use of a Brain Pacemaker*. December 21, 1973.

K. B. Lewis (Johns Hopkins Univ.) *The Nature of Heart Disease*. December 14, 1973.

Donn B. Parker (Control Data Corp.) *Computer Abuse*. December 7, 1973.

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

A. D. Moore (Univ. of Michigan) *Electrostatics in Action*. November 16, 1973.

Christopher H. Scholz (Columbia Univ.) *The Physics of Earthquakes and Earthquake Prediction*. November 9, 1973.

A. F. Aveni (Colgate Univ. and Univ. of South Florida) *Astronomy and City Planning in Ancient Mexico*. November 2, 1973.

G. E. Smith (Bell Telephone Laboratories) *An Overview of Charge Coupled Devices*. October 26, 1973.

T. S. Huang (Purdue Univ.) *Image Enhancement by Computer*. October 19, 1973.

T. O. Poehler (JHU/APL) *High Temperature Superconductivity?* October 12, 1973.

1972 – 1973

Robert E. Fischell (JHU/APL) *A Rechargeable Heart Pacemaker: Evolution of a 'Better Mouse Trap.'* May 25, 1973.

Carl E. Fichtel (NASA Goddard Space Flight Center) *Gamma-Ray Astronomy From SAS-2*. May 18, 1973.

Abraham J. Sachs (Brown Univ.) *Deciphering Babylonian Astronomy*. May 11, 1973.

W. A. Fisher (U.S. Geological Survey) *Earth Resources From Satellites: ERTS and EROS*. May 4, 1973.

- Betty Vetter** (Scientific Manpower Commission) *How Many Engineers (Or Scientists) Are Enough?* April 27, 1973.
- S. I. Rasool** (National Aeronautics and Space Administration) *Atmospheres of Mars, Venus, and Earth - A Problem in Atmospheric Evolution.* April 20, 1973.
- Peter Parker** (Yale Univ.) *The Solar Neutrino Puzzle.* April 6, 1973.
- S. Fred Singer** (Univ. of Virginia) *When Does Growth Become Too Expensive?* March 23, 1973.
- Julian Stanley** (Johns Hopkins Univ.) *Mathematically Precocious Youngsters.* March 16, 1973.
- Joseph Weber** (Univ. of Maryland) *The Gravitational Radiation Experiment.* March 9, 1973.
- Estelle Ramey** (Georgetown Univ.) *Sex Differences From the Physiological Point of View: Facts and Fiction.* February 23, 1973.
- D. J. Williams** (NOAA) *Impact of Space Disturbances on Man's Immediate Environment.* February 16, 1973.
- Arnall Patz** (JHU School of Medicine) *Photocoagulation With a Special-Purpose Laser.* February 9, 1973.
- H. F. Harmuth** (The Catholic Univ. of America) *Survey of R&D in the Field of Walsh Functions.* February 2, 1973.
- M. L. Hill** (JHU/APL) *Use of Atmospheric Electricity for Aircraft Stabilization.* January 26, 1973.
- R. C. Elton** (Naval Research Laboratory) *Recent Developments in X-Ray Lasers at NRL.* January 19, 1973.
- M. H. Cohen** (Univ. of Chicago) *Control of Biological Development in a Simple Living Organism.* January 12, 1973.
- D. W. Pritchard** (Johns Hopkins Univ.) *The Effect of Hurricane Agnes on the Chesapeake Bay.* December 15, 1972.
- G. H. Brown** (Kent State Univ.) *The Properties and Structure of Liquid Crystals.* December 8, 1972.
- Carrol M. Williams** (Harvard Univ.) *New Approaches to the Selective Control of Insect Pests.* December 1, 1972.
- J. Tuzo Wilson** (Univ. of Toronto) *The Physical Study of Earth and the Scientific Revolution It Has Caused.* November 17, 1972.
- Oskar Morgenstern** (New York Univ.) *A Cost/Benefit Analysis of the Space Shuttle.* November 10, 1972.
- Robert Ardrey** (Author) *The Biology of Behavior.* November 3, 1972.

C. K. Jen (JHU/APL) *My Impressions of Science and Technology in China*. October 27, 1972.

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

Robert E. Fischell (JHU/APL) *Triad – A 4-Ounce Satellite in a 200 Pound Box*. October 13, 1972.

John H. Nuckolls and Lowell Wood (Lawrence Livermore Laboratory) *Laser Fusion*. October 6, 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.

Joseph Smogarinsky (NOAA Geophysical Fluid Dynamics Laboratory) *The Global Atmospheric Circulation*. May 5, 1972.

Theodor Hansch (Stanford Univ., 2005 Nobel Prize for Physics) *Saturation Spectroscopy With Tunable Dye Lasers*. April 28, 1972.

Richard A. Farrell (JHU/APL) *Transparency and Structure of the Cornea*. April 21, 1972.

Remo Ruffini (Princeton Univ.) *Black Holes in Our Galaxy*. April 14, 1972.

W. K. Hartmann (Illinois Inst. of Technology) *Early Cratering History of the Solar System*. April 7, 1972.

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

Leo P. Kadanoff (Brown Univ.) *Uses and Misuses of Urban Growth Models*. March 24, 1972.

Clifford S. Russell, Walter O. Spofford, and Robert A. Kelly (Resources of the Future) *Regional Environmental Quality Monitoring*. March 17, 1972.

R. Langridge (Princeton Univ.) *Interactive Computer Graphics in Molecular Biology*. March 10, 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.

Jesse W. Beams (Univ. of Virginia) *The Measurement of the Gravitational Constant*. February 11, 1972.

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

M. Gordon Wolman (Johns Hopkins Univ.) *Is the World Livable?* January 28, 1972.

William Sladen (Johns Hopkins Univ.) *Adélie Penguins and Whistling Swans: A Study of Gregarious Individuals*. January 14, 1972.

C. Kumar N. Patel (Bell Telephone Laboratories) *Tunable Raman Lasers*. January 7, 1972.

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

Donald Mitz (NASA Headquarters) *NASA's Planetary Program*. December 10, 1971.

S. Fred Singer (Univ. of Virginia) *Is There an Optimum Level of Population?* December 3, 1971.

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

Milton Moon (JHU/APL) *Some Alternatives for Air Traffic Control*. November 12, 1971.

Stuart W. Churchill (Univ. of Pennsylvania) *Choosing Between Theory and Experiment*. November 5, 1971.

John C. Kohl (Commissioner of Transportation of New Jersey) *Urban Transit and Institutional Inertia*. October 29, 1971.

Henry M. Seidel (Johns Hopkins Univ.) *The 'Overselling' of the Physician*. October 22, 1971.

Louis S. B. Leakey (Center for Prehistory and Paleontology) *Man: Past, Present – Future?* October 8, 1971.

1970 – 1971

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

David Rabenhorst (JHU/APL) *The Superflywheel*. May 14, 1971.

John Calhoun and Leonard Olson (National Inst. of Mental Health) *Social Physics of Experimental Animal Populations*. May 7, 1971.

George F. Pieper (NASA Goddard Space Flight Center) *Priorities for Space Research in the 1970s*. April 30, 1971.

- Herbert Gursky** (Naval Research Laboratory) *X-Ray Astronomical Observations From SAS-A*. April 16, 1971.
- Athelstan F. Spilhaus** (American Association for the Advancement of Science) *Toward a Steady World*. April 9, 1971.
- Albert Owens** (Johns Hopkins Univ.) *Acute Leukemia: Investigative Challenges*. April 2, 1971.
- Leon M. Lederman** (Columbia Univ., 1988 Nobel Prize for Physics) *Elementary Particles: Speculation and Fantasy*. March 26, 1971.
- Alexander M. Letov** (Inst. for Control Problems) *A Survey of Soviet Spacecraft*. March 22, 1971.
- Max Singer** (Hudson Inst.) *Drug Abuse Policy*. March 12, 1971.
- P. K. Tien** (Bell Telephone Laboratories) *Light Waves in Thin Films and Integrated Micro-Optics*. February 19, 1971.
- M. S. Eisenhower** (Johns Hopkins Univ.) *To Insure Domestic Tranquility*. February 12, 1971.
- Joseph Weber** (Univ. of Maryland, College Park) *The Gravitational Radiation Experiment*. February 5, 1971.
- David M. Gates** (Washington Univ. and Missouri Botanical Gardens) *Energy Exchange With the Environment of Plants and Animals*. January 29, 1971.
- Norman A. Blum** (JHU/APL) *The Mossbauer Effect in High Magnetic Fields*. January 22, 1971.
- Tsu Kai Chu** (Princeton Univ.) *Feedback and Dynamic Control of Plasma Instabilities*. January 15, 1971.
- Maurice M. Shapiro** (Naval Research Laboratory) *Galactic Confinement of Cosmic Rays*. January 8, 1971.
- Chung-ming Wong** (U.S. Dept. of Interior) *Environmental Survival: A New Challenge for Engineers and Scientists*. December 18, 1970.
- Charles Blake** (Federal Aviation Administration) *SST Program Rationale and Status*. December 11, 1970.
- Robert H. Cannon** (U.S. Dept. of Transportation) *Some Advanced Transportation Programs*. December 4, 1970.
- Joseph Schiebel** (Georgetown Univ.) *The Soviet Scientist and Dissent*. November 27, 1970.
- Morton B. Panish** (Bell Telephone Laboratories) *The Evolution of a Room-Temperature CW Junction Laser*. November 20, 1970.

Lewis T. Claiborne (Texas Instrument Company) *Application of Ultrasonic Surface Waves to Signal Processing*. November 13, 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

Robert A. Makofski (JHU/APL) *Technical and Economic Evaluation of Urban Transportation Systems*. May 15, 1970.

J. Murray Mitchell (ESSA Research Laboratories) *Air Pollution and Global Climatic Change*. May 8, 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.

Irwin Shapiro (Massachusetts Inst. of Technology) *Radio and Radar Tests of General Relativity*. April 17, 1970.

Joseph Tydings (Senate) *Crime, Judicial Reform, and Urban Problems*. April 10, 1970.

William Paddock (Tropical Agriculture Development) *How Green Is the 'Green' Revolution?* April 3, 1970.

Hannes Alfvén (Univ. of California San Diego, 1970 Nobel Prize for Physics) *Mission to an Asteroid*. March 26, 1970.

Leo Goldberg (Harvard Univ.) *Maser Effects in the Interstellar Medium*. March 20, 1970.

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

Robert R. Stromberg (National Bureau of Standards) *Polywater*. March 6, 1970.

Robert H. Kargon (Johns Hopkins Univ.) *Science's Public Malaise*. February 27, 1970.

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

M. King Hubbert (U.S. Geological Survey) *Physical Constraints in the Evolution of an Industrial Culture*. February 13, 1970.

R. E. Rosensweig (Ferrofluidics Corporation) *Magnetic Fluid Technology*. February 6, 1970.

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

M. Liebenberg (Dept. of Commerce) *The Office of Business Economics (O.B.E.) Quarterly Econometric Model of the U.S. Economy*. January 23, 1970.

A. F. Haught (United Aircraft Research Laboratories) *Laser Produced Plasmas*. January 16, 1970.

Albert Crewe (Univ. of Chicago) *High-Resolution Scanning Electron Microscopy*. December 12, 1969.

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

Samuel E. Clements (Dept. of Defense) *Department of Defense R&D Policy*. November 21, 1969.

Stephen P. Maran (National Aeronautics and Space Administration) *Pulsars and the Crab Nebula*. November 14, 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.

Edward C. T. Chao (U.S. Geological Survey) *Preliminary Results of Apollo 11 Lunar Samples*. October 17, 1969.

Edward C. Smith (American Univ. and JHU/APL) *Urban Tribalization in Washington DC: A Study of Invisible Political Power*. October 10, 1969.

1968 – 1969

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

Margaret Mead (American Museum of Natural History) *Cultural Factors and Population Control*. May 23, 1969.

Woodrow Seamone (JHU/APL) *The Man-Machine Interface in the Use of Artificial Hands*. May 16, 1969.

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

Raymond J. Seeger (National Science Foundation) *Nature, Art, and Mathematics*. May 2, 1969.

- John S. Rinehart** (ESSA Research Laboratories) *Why Geysers Are Faithful*. April 25, 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.
- Harold Hoekstra** (Federal Aviation Administration) *Hijacking*. March 21, 1969.
- Ernest Stern** (Massachusetts Inst. of Technology) *Progress Report on Micro-Sound Technology*. March 14, 1969.
- Reid A. Bryson** (Univ. of Wisconsin Center for Climatic Research) *Effects of Atmospheric Pollution on Climate*. March 7, 1969.
- J. Lamar Worzel** (Columbia Univ. Lamont Geological Observatory) *Are the Continents Drifting?* February 28, 1969.
- William S. Albright** (Johns Hopkins Univ.) *How One Reconstructs an Ancient Civilization*. February 14, 1969.
- C. A. Doxiadis** (Doxiadis Associates, Athens, Greece) *An Open-Ended Discussion on Human Settlements*. February 7, 1969.
- John L. Colp** (Sandia Laboratories) *Terradynamics*. January 31, 1969.
- Anthony J. DeMaria** (United Aircraft Research Laboratories) *Ultra-Short Laser Pulses*. January 24, 1969.
- Frank White** (Aviation Transport Association) *Airborne Collision-Avoidance Technology*. January 17, 1969.
- John P. Craven** (Dept. of the Navy) *Design of Small Submersibles*. January 10, 1969.
- John B. Garrison, D. G. Grant, M. M. Hart, and Woodrow Seamone** (JHU/APL) *Topics Selected From APL's Medical Engineering Activities*. December 13, 1968.
- Philip Abelson** (Carnegie Geophysical Laboratory) *Science and Politics 1969; The Road Bends Sharply*. December 6, 1968.
- Peter H. Rossi** (Johns Hopkins Univ.) *Civil Disorders and the Politics of Discontent*. November 22, 1968.
- S. Fred Singer** (U.S. Dept. of Interior) *Origin of the Moon and Geophysical Consequences*. November 15, 1968.

L. M. Murphy (Environmental Science Service Administration) *The Mechanisms of Earthquakes*. November 8, 1968.

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

Daniel B. DeBra (Stanford Univ.) *Theory and Experiments With Drag-Free Satellites*. October 25, 1968.

Roy Britton (Carnegie Inst. of Technology) *Repeating DNA Sequences and Evolution*. October 18, 1968.

William Avery (JHU/APL) *An Integrated Urban-Interurban Transportation Concept*. October 11, 1968.

1967 – 1968

Isadore Katz (JHU/APL) *Clear-Air Turbulence*. May 10, 1968.

M. Danos (National Bureau of Standards) *Whither Nuclear Physics?* May 3, 1968.

Howard R. Penniman (Georgetown Univ.) *The Proposed New Maryland Constitution*. April 30, 1968.

Theodore O. Poehler and Robert Turner (JHU/APL) *Far-Infrared Lasers and Their Application*. April 26, 1968.

John A. O'Keefe (NASA Goddard Space Flight Center) *Surveyor and Other New Results on the Lunar Surface*. April 19, 1968.

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

Emmett N. Leith (Univ. of Michigan) *Modern Holography*. April 5, 1968.

Benjamin Widom (Cornell Univ.) *Phase Transitions and Critical Phenomena*. March 29, 1968.

Fred Friendly (Columbia Univ. and Ford Foundation) *The Use of Satellites for Educational Television*. March 22, 1968.

Harold Sobol (RCA Laboratories) *Integrated Circuitry for Microwaves*. March 15, 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.

Alan H. Barrett (Massachusetts Inst. of Technology) *The Puzzling Radio Signals From Interstellar Hydroxyl Radicals*. February 2, 1968.

Robert C. Wood (Dept. of Housing and Urban Development) *The Use of Technology for Solving Urban Problems*. January 26, 1968.

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

Edward W. Ungar (Battelle Memorial Institute) *Ablation Cooling*. January 12, 1968.

Nicholaas Bloembergen (Harvard Univ., 1981 Nobel Prize for Physics) *Stimulated Raman Effect*. January 5, 1968.

Dame Kathleen Lonsdale (Univ. College of London) *Aging of Matter and Man*. December 15, 1967.

Joseph Kirkpatrick (Honeywell Corporation) *The Laser Gyro*. December 8, 1967.

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

Leonard Mandel (Univ. of Rochester) *Interference of Independent Photon Beams*. November 17, 1967.

William D. Carey (Bureau of Budget) *Informal Talk About Science Budgeting*. November 10, 1967.

Curt P. Richter (Johns Hopkins Univ.) *The 24 Hour Clock in Animals and Man*. November 3, 1967.

Gerald Feinberg (Columbia Univ.) *The Possibility of Faster-Than-Light Particles*. October 27, 1967.

D. McRuer (Systems Technology Inc.) *The Human Being as a Control Element*. October 20, 1967.

Robert R. Newton (JHU/APL) *Why the Earth Is Slowing Down*. October 13, 1967.

1966 – 1967

Richard B. Kershner (JHU/APL) *On Paving the Plane*. May 19, 1967.

John Mackenzie (Rensselaer Polytechnic Inst.) *Electronically Conducting Glasses*. May 12, 1967.

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

William Feldman (Eastman Kodak Corporation) *The Photographic System of the Lunar Orbiter*. April 28, 1967.

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

- William Parker** (Univ. of Pennsylvania) *Measurement of $2e/h$ Using the AC Josephson Effect, and Its Implications for Knowledge of the Fundamental Physical Constants.* April 14, 1967.
- R. B. Partridge** (Princeton Univ.) *The Cosmic Background Radiation and the Primeval Fireball.* April 7, 1967.
- Allen B. Holmes** (Harry Diamond Laboratory) *Fluidic Missile Control.* March 31, 1967.
- Michael J. Salkind** (United Aircraft Corporation Research Laboratory) *Whiskers and Fibers.* March 24, 1967.
- Lester S. Eastman** (Cornell Univ.) *The Gunn Effect – Status and Prospects.* March 17, 1967.
- G. Sargent James** (Avco-Everett Research Laboratories) *The Trapping and Acceleration of Ions in Electron Plasmas.* March 10, 1967.
- William Happ** (NASA Electronics Research Center) *The Use of Computers in Designing Electronic Circuits.* March 3, 1967.
- H. I. Forman** (Rohm & Haas Co.) *Government Patent Policy – Yesterday, Today, and Tomorrow.* February 24, 1967.
- William B. Kouwenhoven** (JHU) *Effects of Electric Shock on the Human Body.* January 20, 1967.
- I. M. Rubin** (Massachusetts Inst. of Technology) *Factors in the Performance of R&D Projects.* January 13, 1967.
- L. J. Cutrona** (Univ. of Michigan and Conductron Corp.) *Electro-Optical Data Processing.* December 16, 1966.
- Anne Roe** (Harvard Univ.) *The Creative Life Patterns in Scientists and Artists.* November 18, 1966.
- 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.
- Herman Z. Cummins** (Johns Hopkins Univ.) *Ultrahigh-Resolution Laser Techniques.* October 21, 1966.
- Gerald V. Bull** (McGill Univ.) *Gun-Launched Satellites.* October 14, 1966.
- Robert M. Fristrom** (JHU/APL) *Molecular Beam – A Tool for Chemical Research.* October 7, 1966.
- 1965 – 1966**
- Robert E. Fischell** (JHU/APL) *Spacecraft Attitude-Control Systems.* May 13, 1966.
- Daniel S. Greenberg** (Science Magazine) *Science and Politics.* May 6, 1966.

- Louis Rosen** (Los Alamos Scientific Laboratories) *Meson Factories*. April 29, 1966.
- Stuart E. Miller** (Bell Telephone Laboratories) *Optical Transmission Systems*. April 22, 1966.
- Richard Courant** (New York Univ.) *On Numerical Analysis of the Equations of Mathematical Physics*. April 15, 1966.
- William B. Brower** (Rensselaer Polytechnic Inst.) *High-Speed Ground Transport Through Flight in Nonevacuated Tubes*. April 8, 1966.
- Robert G. Sachs** (Argonne National Laboratory and Univ. of Chicago) *The Concept of Time-Reversal Invariance in Physics*. March 30, 1966.
- Melvin Lax** (Bell Telephone Laboratories) *Noise in Laser Oscillators*. March 25, 1966.
- Robert Frosch** (Advanced Research Projects Administration) *Seismic Arrays*. March 11, 1966.
- L. S. Kubie** (Sheppard-Pratt Hospital) *Blocks to Creativity*. March 4, 1966.
- Hong-Yee Chiu** (Goddard Inst. of Space Studies) *Astrophysical Evidence for the Direct Electron-Neutrino Interaction*. February 25, 1966.
- Oskar Klein** (Univ. of Stockholm and Brandeis Univ.) *On the Origin of Our Local System of Galaxies*. February 18, 1966.
- William H. Huggins** (Johns Hopkins Univ.) *Computerized Animation for Educational Films*. February 11, 1966.
- Edward Mason** (Univ. of Maryland) *Oscillating Instabilities in Diffusing Gases*. February 4, 1966.
- F. T. Cole** (Lawrence Radiation Laboratory, Univ. of Calif.) *Design Study for the 200-Bev Accelerator*. January 25, 1966.
- Jack Rabinow** (Rabinow Electronics) *Inventions and Patents*. January 14, 1966.
- Wendell R. Garner** (Johns Hopkins Univ.) *Research in Pattern Perception*. January 7, 1966.
- N. F. Ness** (NASA Goddard Space Flight Center) *The Interaction of the Solar Wind With the Geomagnetic Field*. December 17, 1965.
- Robert Panero** (Hudson Inst.) *New Approaches to Latin American Technical Development*. December 10, 1965.
- Bernard Smith** (U.S. Naval Weapons Laboratory) *New Thoughts About Old Platforms: Railroads and Sailboats*. December 3, 1965.
- Arthur Kantrowitz** (Avco-Everett Research Laboratories) *Magnetohydrodynamic Generators*. November 19, 1965.

Paul A. Castleman (Bolt, Beranek, and Newman) *Computer-Aided Patient Care in a General Hospital*. November 12, 1965.

Solomon J. Buchsbaum (Bell Telephone Laboratories) *Waves and Resonances in Solid-State Plasmas*. November 5, 1965.

Leonard S. Rodberg (U.S. Arms Control and Disarmament Agency) *Some Technical Problems of Arms Control*. October 29, 1965.

Charles F. Curtiss (Univ. of Wisconsin) *Transport Phenomena in Gases*. October 22, 1965.

Alfred Zmuda (JHU/APL) *Ionospheric Disturbances Related to High-Altitude Nuclear Explosions*. October 15, 1965.

1964 – 1965

Walter P. Dyke (Linfield College) *Recent Progress in Field Emission and Its Applications*. May 28, 1965.

Conrad Weisert (JHU/APL) *Computer Systems 1967*. May 21, 1965.

Benjamin Lax (Lincoln Laboratory) *Progress in Quantum Electronics*. May 14, 1965.

G. W. Stroke (Univ. of Michigan) *Optical Holography and X-Ray Microscopy*. May 7, 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.

William J. Spencer (Bell Telephone Laboratories) *Ultrastable Quartz Crystal Oscillators*. March 19, 1965.

Albert J. Perlis (Carnegie Inst. of Technology) *Formula Manipulation on Computers*. March 12, 1965.

Nelson Spencer (NASA Goddard Space Flight Center) *Energy Relationships in the Thermosphere*. March 5, 1965.

James W. Rouse (Community Research and Development Company) *The Planning Process – In Columbia, Maryland*. February 26, 1965.

P. James Peebles (Princeton Univ.) *Gravity Research at Princeton*. February 19, 1965.

Arthur Bonney (Arlington Presbyterian Church) *A Scientist Looks at Faith*. February 12, 1965.

John Jarem (Drexel Inst. of Technology) *Radar Scattering From Turbulent Wakes*. February 5, 1965.

- Peter A. Wolff** (Bell Telephone Laboratories) *Quantum Effects in Solid State Plasma*. January 22, 1965.
- Morgan D. Dubrow** (U.S. Dept. of Interior) *The Development and Application of Extra-High-Voltage Transmission in the United States*. January 15, 1965.
- Michael J. Deutch** (Consulting Engineer, Washington DC) *Economics of Nuclear Power*. January 8, 1965.
- Sarah Stewart** (National Cancer Inst.) *Viruses and Cancer*. December 18, 1964.
- 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.
- Phillip Converse** (Univ. of Michigan) *Elections and Opinion Polls*. November 13, 1964.
- Wilmot Hess** (NASA Goddard Space Flight Center) *Origins of Protons in the Outer Radiation Zone*. November 6, 1964.
- Gordon Lill** (National Science Foundation) *Project Mohole*. October 30, 1964.
- Sidney Metzger** (Communications Satellite Corporation) *Technical Program of the Communications Satellite Corporation*. October 23, 1964.
- Stanley Donald Stookey** (Corning Glass Corporation) *Photochromic Glasses*. October 16, 1964.
- Joseph F. Bird** (JHU/APL) *Star Formation*. October 9, 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.
- S. Goldblith** (Massachusetts Inst. of Technology) *Radiation Preservation of Foods – Present Status and Future Prophecy*. May 15, 1964.
- H. Guerlac** (Cornell Univ.) *New Light on Newton's Optics*. May 8, 1964.
- P. Morrison** (Cornell Univ. and Massachusetts Inst. of Technology) *Cosmic X-Rays and Gamma Rays*. May 1, 1964.
- R. W. Hamming** (Bell Telephone Laboratories) *Chebyshev Approximation – The Minimax Criterion as an Alternative to Least Squares*. April 24, 1964.
- Jesse W. Beams** (Univ. of Virginia) *Some Experiments With High Constant-Speed Rotors*. April 10, 1964.

- R. E. Behrends** (Yeshiva Univ.) *New Insight Into Elementary Particles – The Eightfold Way*. April 3, 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.
- Alexander Flax** (Dept. of Defense) *Panel Flutter – Classical Small-Oscillation Theory Revisited*. March 6, 1964.
- Lindsey Harmon** (National Academy of Sciences) *Trends and Issues in Scientific Manpower Production*. February 28, 1964.
- Samuel N. Alexander** (National Bureau of Standards) *Where Are the Frontiers of Information and Data Processing Today?* February 21, 1964.
- Aristide V. Grosse** (Temple Univ.) *Noble Gas Compounds*. February 14, 1964.
- Paul D. Maker** (Ford Motor Company) *Some Experiments in Nonlinear Optics*. February 7, 1964.
- H. C. Eagle** (Albert Einstein Medical School) *Experimental Application of Cultured Animal Cells*. January 31, 1964.
- Carleen Hutchins** (Acoustician and Violinmaker) *The Physics of Violins – With Musical Illustrations*. January 17, 1964.
- W. E. Danielson** (Bell Telephone Laboratories) *Problems in Ballistic Missile Defense*. January 10, 1964.
- S. Fred Singer** (Univ. of Maryland and U.S. Weather Bureau) *Weather Satellites*. January 3, 1964.
- Ali Javan** (Massachusetts Inst. of Technology) *Application of the Gaseous Laser to Precision Measurements*. December 13, 1963.
- Max A. Butterfield** (U.S. Post Office) *Problems in Handling Large Volumes of Mail*. December 6, 1963.
- M. S. Eisenhower** (Johns Hopkins Univ.) *Latin America on the Verge of Revolution*. November 15, 1963.
- M. Kac** (Rockefeller Inst.) *The Statistical Mechanics of Some One-Dimensional Systems*. November 1, 1963.
- R. C. Oldfield** (Oxford Univ.) *Memory and the Theory of Schema*. October 30, 1963.
- John B. Fenn** (Princeton Univ., 2002 Nobel Prize for Chemistry) *High-Intensity Molecular Beams*. October 25, 1963.

T. R. Carver (Princeton Univ.) *Optical Pumping and Atomic Clocks*. October 18, 1963.

A. C. Pearce (Bell Comm) *Physics on the Moon*. October 11, 1963.

Robert R. Newton (JHU/APL) *The Shape of the Earth*. October 4, 1963.

1962 – 1963

C. Meyer (JHU/APL) *Evaluation of Surface-to-Air Missile Systems*. May 24, 1963.

H. S. M. Coxeter (Univ. of Toronto) *The Mathematics of Map Coloring*. May 17, 1963.

F. Press (California Inst. of Technology) *Recent Developments in Seismology*. May 14, 1963.

N. H. Frank (Massachusetts Inst. of Technology) *A New Look at the Teaching of College Physics*.
May 3, 1963.

G. Rado (Naval Research Laboratory) *Magnetolectric Effects in Antiferromagnets*. April 12, 1963.

M. Baranger (Carnegie Inst. of Technology) *Recent Work on Nuclear Structures*. April 5, 1963.

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

T. Litovitz (Catholic Univ.) *Ultrasonic Spectroscopy in Liquids*. March 15, 1963.

J. Ragazzini (New York Univ.) *Sampled Data Systems*. March 8, 1963.

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

G. Leichner (Univ. of Illinois) *Use of Digital Computers for Circuit Design*. February 15, 1963.

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

S. K. Friedlander and S. H. Talbot (Johns Hopkins Univ.) *Topics in Biomedical Engineering*.
February 8, 1963.

W. L. Brown (Bell Telephone Laboratories) *Recent Observations of the Artificial Radiation Belts*.
January 18, 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.

Leon M. Lederman (Columbia Univ., 1988 Nobel Prize for Physics) *Experiments With High-Energy Neutrinos*. December 7, 1962.

- H. Margenau** (Yale Univ.) *The Quantum Theory of Measurement*. November 30, 1962.
- G. F. Carrier** (Harvard Univ.) *On the Wind-Driven Ocean Circulation*. November 16, 1962.
- D. B. Beard** (Univ. of California) *Microwave Emission From Jupiter*. November 9, 1962.
- E. M. Pugh** (Carnegie Institute of Technology) *Fundamental Principles in the Projection and Impact Phenomena of High Speed Pellets*. November 2, 1962.
- E. J. Sternglass** (Westinghouse Research) *Classical Models of the Elementary Particles*. October 26, 1962.
- W. L. Faust** (Bell Telephone Laboratories) *Some Recent Experiments With Gaseous Optical Masers*. October 19, 1962.
- R. R. Nelson** (President's Council of Economic Advisors) *Scientific Research and Economic Growth: Some Problems of Public Policy*. October 12, 1962.
- L. J. Rueger** (JHU/APL) *Time and Frequency Standards for the Transit Satellite Program*. October 5, 1962.

1961 - 1962

- G. F. Pieper** (JHU/APL) *Research Results From the Injun and TRAAC Satellites*. May 25, 1962.
- L. M. Branscomb** (National Bureau of Standards) *The Structure and Spectra of Negative Atomic Ions*. May 18, 1962.
- D. L. Allen** (Purdue Univ.) *Studies on the Population Balance Between Moose and Wolves on Isle Royale*. May 11, 1962.
- S. Bhagavantam** (Indian Inst. of Science) *Crystal Symmetry and Physical Properties*. May 4, 1962.
- V. L. Telegdi** (Univ. of Chicago) *Present Problems of Muon Physics*. April 27, 1962.
- Manfred R. Schroeder** (Bell Telephone Laboratories) *Artificial Reverberation, Pseudostereophony, and the Digital Simulation of Concert-Hall Acoustics*. April 20, 1962.
- T. Fulton** (Johns Hopkins Univ.) *Classical Radiation From Uniformly-Accelerated Electrons*. April 6, 1962.
- W. B. Fowler** (Brookhaven National Laboratory) *Bubble Chamber Physics at the Brookhaven National Laboratory*. March 30, 1962.
- R. Ferrell** (Univ. of Maryland) *Collective Oscillations of Normal and Superconducting Electrons*. March 23, 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.
- R. P. Hudson** (National Bureau of Standards) *Some Experiments on Spin-Lattice Relaxation in Rare-Earth Salts*. March 2, 1962.
- C. P. Sonett** (NASA) *Magnetic Disturbances in the Far Exosphere*. February 23, 1962.
- M. Nirenberg** (National Institutes of Health, 1968 Nobel Prize for Physiology/Medicine) *Progress Toward Breaking the Genetic Code*. February 16, 1962.
- R. L. Bisplinghoff** (Massachusetts Inst. of Technology) *Current Problems in Aero-Thermoelasticity*. January 19, 1962.
- J. E. Kunzler** (Bell Telephone Laboratories) *High-Field Superconductivity and Superconducting Magnets*. January 12, 1962.
- Philip Abelson** (Carnegie Geophysical Laboratory) *Current Research Relevant to the Origin of Life*. January 5, 1962.
- F. J. Weyl** (Office of Naval Research) *A Mathematician Looks at Memory*. December 15, 1961.
- D. K. Wessel** (Syracuse Univ.) *Some Recent Developments in Optical and Infrared Masers*. December 8, 1961.
- G. Feldman** (Johns Hopkins Univ.) *The Structure of the Nucleon in New Elementary Particles*. December 1, 1961.
- David J. Rose** (Massachusetts Inst. of Technology) *Some Recent Advances and Future Prospects in Controlled Thermonuclear Fusion*. November 24, 1961.
- P. J. Debye** (Cornell Univ., 1936 Nobel Prize for Chemistry) *Critical Opalescence and Molecular Interactions*. November 17, 1961.
- E. L. O'Neil** (Boston Univ.) *Modern Developments in Optics and Communications*. November 10, 1961.
- John C. Lilly** (Communications Research Institute) *Communications by Dolphins*. November 3, 1961.
- S. Fritz** (U.S. Weather Bureau) *The TIROS Meteorological Satellite*. October 27, 1961.
- G. E. Kimball** (A.D. Little Co.) *Unsolved Problems in Production Scheduling*. October 13, 1961.
- R. P. Rich** (JHU/APL) *Computer Trends*. October 6, 1961.

1960 – 1961

- J. Caldwell** (Beach Erosion Board) *Shore Processes and Coastal Engineering*. May 19, 1961.
- T. Gold** (Cornell Univ.) *Processes on the Lunar Surface*. May 12, 1961.
- E. Burstein** (Univ. of Pennsylvania) *Investigation of Excited Carriers in Superconductors*. May 5, 1961.
- R. Strause-Hupe** (Univ. of Pennsylvania) *Strategy and Value*. April 14, 1961.
- O. Selfridge** (MIT Lincoln Laboratory) *Discussion of Problems Associated With Machine Learning*. April 7, 1961.
- J. W. Carr III** (Univ. of North Carolina) *Computer Programming and Theorem Proving*. March 24, 1961.
- G. W. Stroke** (Massachusetts Inst. of Technology) *Recent Developments in Large Diffraction Gratings*. March 17, 1961.
- M. Camac** (AVCO Research Labs) *Plasma Propulsion*. March 10, 1961.
- Harrison Brown** (California Inst. of Technology) *Resources and the Future of Industrial Civilization*. March 3, 1961.
- W. F. G. Swann** (Bartol Foundation) *Relativity and the Twin Paradox*. February 24, 1961.
- A. J. F. Siegert** (Northwestern Univ.) *Theory of Random Functions With Applications to Noise in Radio*. February 17, 1961.
- N. F. Ramsey** (Harvard Univ., 1989 Nobel Prize for Physics) *Significance of Potentials in Quantum Theory*. February 10, 1961.
- R. V. Pound** (Harvard Univ.) *A Measurement of the Weight of Photons*. January 27, 1961.
- E. C. Pollard** (Pennsylvania State Univ.) *Radiation Action in Molecular Biophysics*. January 11, 1961.
- C. W. Little** (RCA Laboratories) *Engineering Problems of the Model-C Stellarator Machine*. January 6, 1961.
- T. A. Vanderslice** (GE Research Lab) *Ultra-High-Vacuum Techniques*. December 16, 1960.
- G. Gould** (Tech Research Group) *Coherent Generation of Light: LASER Devices*. December 9, 1960.
- R. M. Scammon** (Government Affairs Inst.) *Programming Election Predictions*. December 2, 1960.
- V. W. Hughes** (Yale Univ.) *Muonium*. November 18, 1960.

R. Heikes (Westinghouse Research) *Relationships Between Electrical and Magnetic Properties of Selenium*. November 11, 1960.

D. Wechsler (NYC College of Medicine) *Machine and Human Thinking*. October 21, 1960.

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

1959 – 1960

J. L. Delcroix (Univ. of Paris) *The Four Modes of Wave Propagation in Plasmas*. September 30, 1960.

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

Ernest P. Gray (JHU/APL) *Diffusion and Recombination in Afterglows*. April 20, 1960.

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

Buckminster Fuller (Southern Illinois Univ.) *Light-Weight Structures*. April 13, 1960.

N. S. Kapany (Armour Research Foundation) *Recent Work on Fiber Optics*. April 8, 1960.

C. N. Yang (Inst. for Advanced Study, 1957 Nobel Prize for Physics) *Some Considerations of Possible Experiments With High-Energy Neutrinos*. March 25, 1960.

K. R. Atkins (Univ. of Pennsylvania) *First, Second, Third, Fourth, and Zeroth Sounds in Liquid Helium*. March 18, 1960.

M. S. Livingston (Massachusetts Inst. of Technology and Harvard Univ.) *The 6-BeV Cambridge Electron Accelerator: Novel Problems*. March 11, 1960.

M. I. Nathan (IBM Research) *The Physics of the Esaki (Tunnel) Diode*. March 4, 1960.

N. Marcuvitz (Polytechnic Inst. of Brooklyn) *Fields and Plasmas*. February 26, 1960.

R. W. Hoffman (Case Inst. of Technology) *Magnetic and Mechanical Properties of Thin Films*. February 19, 1960.

R. D. Richtmyer (New York Univ.) *Some Numerical Calculations of Detached Shock Waves*. February 11, 1960.

Joseph Weber (Univ. of Maryland, College Park) *Gravitational Waves*. February 5, 1960.

E. P. Wigner (Princeton Univ., 1963 Nobel Prize for Physics) *Probability of Existence of a Self-Reproducing Unit*. January 22, 1960.

William H. Huggins (Johns Hopkins Univ.) *"Antennas" in Signal Space*. January 15, 1960.

- James W. Follin Jr.** (JHU/APL) *Initial Light-Element Formation in an Expanding Universe.* January 8, 1960.
- Herman Kahn** (Rand Corporation) *Nature and Feasibility of War and Deterrence.* December 18, 1959.
- Solomon J. Buchsbaum** (Bell Telephone Laboratories) *Interaction of an Electromagnetic Field With a Bounded Plasma.* December 11, 1959.
- H. C. Higgins** (Eastman Kodak Corporation) *The Applications of Communication Theory to Photographic Systems.* December 4, 1959.
- K. Bullington** (Bell Telephone Laboratories) *Systems Engineering for Speech Interpolation Equipment.* November 20, 1959.
- C. M. Herzfeld** (National Bureau of Standards) *Recent Developments in Crystal Field Theory.* November 13, 1959.
- J. A. Wheeler** (Princeton Univ.) *Einstein's Views of Space and Time: Present Status and Future Prospects.* November 6, 1959.
- F. T. McClure** (JHU/APL) *Solid-Propellant Rockets as Acoustic Resonators.* October 30, 1959.
- A. C. Kolb** (Naval Research Laboratory) *Acceleration and Confinement of Dense Plasmas.* October 23, 1959.
- D. R. Bates** (Queen's College, Belfast) *The Night Glow.* October 9, 1959.

1958 – 1959

- William H. Guier** (JHU/APL) *Satellite Tracking by Doppler Techniques.* May 22, 1959.
- W. Heikkila** (Defense Research Board) *Arctic Radio Propagation Phenomena.* May 15, 1959.
- S. B. Hendricks** (Dept. of Agriculture) *Physics and Biology, or the Physiology of Plants.* May 8, 1959.
- Robert R. Newton** (JHU/APL) *Optimization of Ballistic-Missile Trajectories.* April 24, 1959.
- G. Burbidge** (Yerkes Observatory) *Stellar Populations and the Chemical Evolution of the Stars.* April 17, 1959.
- A. A. Brown** (A.D. Little Co.) *Some Concepts of Civilian Operations Research.* April 10, 1959.
- F. J. Adrian** (JHU/APL) *Radio-Frequency Spectroscopy and the Chemical Bond.* April 3, 1959.
- G. Bekefi** (Massachusetts Inst. of Technology) *Microwave Plasma Diagnostics.* March 20, 1959.
- P. Morrison** (Cornell Univ.) *The Origins of Cosmic Rays.* March 13, 1959.

- J. Gurley** (Brookings Institution) *Theory of Money*. March 6, 1959.
- F. Rohrlich** (Johns Hopkins Univ.) *Negative Atomic Ions*. February 27, 1959.
- F. Rosi** (RCA Laboratories) *Evaluation and Properties of Materials for Thermoelectric Applications*. February 20, 1959.
- S. Fred Singer** (Univ. of Maryland) *The Origin of the Earth's Radiation Belts*. February 13, 1959.
- L. J. Chu** (Massachusetts Inst. of Technology) *Macroscopic Electrodynamics*. January 23, 1959.
- D. E. Kerr** (Johns Hopkins Univ.) *Reactions in Low-Energy Plasmas*. January 16, 1959.
- P. L. Garvin** (Georgetown Univ.) *Mechanical Translation*. January 9, 1959.
- W. H. Louisell** (Bell Telephone Laboratories) *Parametric Amplifiers*. December 12, 1958.
- J. B. Johnson** (Thomas Edison Inc.) *Edison's Contribution to Thermionics*. December 5, 1958.
- J. L. Jackson** (National Bureau of Standards) *Free-Radical Statistics*. November 21, 1958.
- W. C. Elmore** (Swarthmore College) *The Compression of a Plasma by a Rising Axial Magnetic Field*. November 14, 1958.
- J. L. Prather** (George Washington Univ.) *Atomic Energy Levels in Crystals*. November 7, 1958.
- R. H. Simpson** (U.S. Weather Bureau) *Factors Influencing the Release of Energy in a Hurricane*. October 31, 1958.
- S. C. Lin** (AVCO Research Labs) *Recent Problems in High-Temperature Gas Dynamics*. October 17, 1958.
- J. R. Pierce** (Bell Telephone Laboratories) *Use of Satellites for Transoceanic Communications*. October 10, 1958.
- N. W. Lord** (JHU/APL) *Electron-Nuclear Double Resonance: A Sensitive Detector of Energy*. October 3, 1958.