

Seventh Annual Conference

SHALE

— AND —

PUBLIC HEALTH

November 19, 2019

University Club

Hosted by the University of Pittsburgh Graduate School of Public Health



A presentation of the

League of Women Voters of Pennsylvania

With funding from the

Colcom Foundation and The Heinz Endowments

to the League of Women Voters of PA Citizen Education Fund

Presentations include a question and answer session.
Please write your questions on the index cards provided and hold them up for someone to collect.

LIST OF EXHIBITORS

- **350 Pittsburgh**
- **Article 1 Section 27 poster (League of Women Voters)**
- **BREATHE Project**
- **The Climate Reality Project**
- **Our Children Our Earth**
- **Physicians for Social Responsibility**
- **Protect PT**
- **Solar United Neighbors**
- **Sustainable Monroeville/Re-Imagine Turtle Creek Watershed & Airshed Communities**
- **SWPA-Environmental Health Project**

INFORMATION ABOUT SHALE GAS EXTRACTION PROCESSES

- **LWV Straight Scoop Storybox interactive listening device “Pipelines”**

All attendees will receive copies of the League of Women Voters of Pennsylvania's 2019 updated "Shale Gas Extraction and Public Health" Resource Guide

SHALE & PUBLIC HEALTH

Pitt University Club • November 19, 2019 • 8:30 AM – 5:00 PM

- 8:30 a.m.** **Registration/Sign-In** **Exhibits**
Ballroom B
- 9 a.m.** Welcome **Cris Beuger MPH, LWV Emcee**
Terrie Griffin DMin MHS Co-President, League of Women Voters of Pennsylvania
Sally Wenzel MD Dept. Chair, Pitt Graduate School of Public Health
- 9:45** *Compressor Station Emissions and Health*
Michael McCawley PhD MSE Clinical Assoc. Professor, WVU School of Public Health
- 10:15** *Congenital Heart Defects, Cardiovascular Disease, and Unconventional Gas Development*
Lisa McKenzie PhD MPH Assistant Research Professor, Colorado School Public Health
- Break – (15 min.)
- 11:00** *Drinking Water Quality & Unconventional Oil & Gas Development in the Appalachian Basin*
Nicole Deziel PhD MHS Asst. Professor, Yale School of Public Health; Yale Cancer Center & Yale Center for Perinatal, Pediatric and Environmental Epidemiology
- 11:30** *Trends in Oil and Gas Waste Disposal in Pennsylvania 1991-2017 and Public Health*
Lee Ann Hill MPH Senior Scientist, PSE Healthy Energy
- Noon – 1:00** **LUNCH** and Speaker: *Reporting on Radioactivity in Oil & Gas Development*
Justin Nobel Journalist for *Rolling Stone* & other publications
- 1:00 p.m.** *Science and Policy: A Panel Discussion*
moderated by **Bruce Pitt PhD** Professor, U. Pgh Graduate School of Public Health
Brian Schwartz MD Johns Hopkins; Senior Investigator, Geisinger Health Research Ctr.
Lisa McKenzie PhD MPH Asst. Research Professor, Colorado School of Public Health
Scott Perry Esq. Deputy Secretary, Office of Oil & Gas Management, PA DEP
The Hon. Bobby Zirkin Maryland State Senator
- Break – (10 min.)
- 2:40** *Heart Failure Hospitalizations, Unconventional Natural Gas Development, the BNP BioMarker*
Tara McAlexander PhD MPH Postdoctoral Fellow Drexel School of Public Health
- 3:05** *Unconventional Gas Development, Maternal Mental Health in Pregnancy, Birth Outcomes*
Joan A. Casey PhD Assistant Professor, Columbia Mailman School of Public Health
- 3:30** *Climate Change, Fracking, Plastics and Public Health*
Plastic & Climate: Climate Change Impacts Across the Plastics Lifecycle
Steven Feit JD Staff Attorney, Climate & Energy, Center for Intl. Environmental Law
Researching Methane Impact on Climate
Andrew Williams JD Director Regulatory Legislative Affairs, Environ. Defense Fund
- 4:30 p.m.** *Citizen Science: Indoor Air Monitoring*
Linda Wigington ROCIS Team Leader; **Annette & Preston Shimer** LWV members
- 5:00 p.m.** Please Turn in Your Evaluation Forms before you leave! Thanks.

SPEAKER BIOGRAPHIES

Cristina Beuger MPH holds a Masters of Public Health from the University of Pittsburgh, Public and Community Health Services, 1995. Her previous experiences in Public Health were primarily research based. Cris served as the Clinical Research Administrator for NewBridge Medical Research overseeing FDA Clinical Trials in Wound Care. In addition, she conducted adolescent alcohol research at the Center for Rural Health Practice, University Of Pittsburgh -Bradford, in conjunction with University of Pittsburgh Graduate School of Public Health. She recently left the Public Health research arena to pursue her love and passion for cooking as the owner/chef of Vita Bella Italian Cafe/Catering and President of Mangia Italia, Inc. When not cooking, she devotes her time working to protect our democracy with the League of Women Voters of Greater Pittsburgh as the Vice President and serving on the Voter Service Committee and the Shale and Public Health Committee.

Joan A. Casey Ph.D. is an Assistant Professor of Environmental Health Sciences at the Columbia University Mailman School of Public Health. She received her doctoral degree from the Department of Environmental Health Sciences at Johns Hopkins Bloomberg School of Public Health in 2014. Dr. Casey is an environmental epidemiologist who focuses on environmental health, environmental justice, and sustainability. Her research uses electronic health records and spatial statistics to study the relationship between emerging environmental exposures and population health. Much of her recent work has focused on the potential health implications of unconventional natural gas development in Pennsylvania and California. In Pennsylvania, she has found associations between living close to more and larger wells and adverse birth outcomes, depressive symptoms, and maternal anxiety or depression during pregnancy. Dr. Casey also holds a BS in Biological and Environmental Engineering from Cornell University and an MA in Applied Physiology from Teachers College at Columbia University.

Nicole Deziel Ph.D. MHS is an Assistant Professor in Environmental Health Sciences at the Yale School of Public Health and a member of the Yale Cancer Center and Yale Center for Perinatal, Pediatric and Environmental Epidemiology.

She has expertise in exposure science and interdisciplinary training in epidemiology, biostatistics, and industrial hygiene. Her research involves developing and applying environmental exposure assessment methods to answer emerging research questions in environmental epidemiology. She combines existing and advanced statistical models, biomonitoring techniques, and environmental measurements to provide more comprehensive and quantitative assessments of exposure to multiple contaminants.

One of Dr. Deziel's main areas of interest is evaluating the potential public health impacts of unconventional oil and gas development. Dr. Deziel serves as a Principal Investigator (PI) of an inter-disciplinary project entitled "Drinking water vulnerability and neonatal health outcomes in relation to oil and gas production in the Appalachian Basin," funded by the Environmental Protection Agency. She is also PI of a study funded by the American Cancer Society investigating co-exposures to multiple flame retardants, pesticides, and other persistent pollutants and thyroid cancer risk. Dr. Deziel holds an MHS and PhD from the Johns Hopkins Bloomberg School of Public Health. She is the recipient of the Joan M. Daisy Award for Outstanding Young Exposure Scientist (2017) from the International Society for Exposure Science and is on the Editorial Board of multiple high-impact environmental health journals.

Steven Feit JD is a Staff Attorney in the Climate & Energy program at the Center for International Environmental Law (CIEL). Steven's work spans several areas, including pursuing accountability for climate harms, the nexus of legal and financial risks from climate change, and the intersections between plastics, petrochemicals, and climate change. His work includes research, public campaigning, policy advocacy, and participation in litigation and proceedings before human rights bodies. Most recently, he was a co-author of CIEL's report Plastic & Climate: The Hidden Costs of a Plastic Planet, which identified and quantified the greenhouse gas emissions throughout the lifecycle of plastic production, use, and disposal.

Terrie Griffin, D.Min., M.Div. M.H.S. is co-President of the League of Women Voters of Pennsylvania. A Pittsburgh, PA native and Lincoln University graduate, she holds graduate degrees from the Samuel DeWitt Proctor School of Theology, Virginia Union University. Dr. Griffin's career has combined higher education administration, health education, and non-profit executive management, as well as being a live radio talk show host. As a national and international lecturer, she has addressed health issues and social concerns. Dr. Griffin traveled to Poland, Hungary and Czechoslovakia, the Republic of Haiti, and the South African countries of Botswana, Swaziland, and Lesotho, where she worked with professional counterparts, clergy, and lay leaders in the development of prevention education programs targeting urban and rural communities. She served as the Minority Services Specialist for the Virginia Department of Mental Health, Mental Retardation and Substance Abuse services where she staffed the Multicultural Advisory Committee and provided cross-cultural training to 40 Community Services Boards throughout the Commonwealth of Virginia.

Prior to relocating to Pittsburgh, Dr. Griffin was appointed to the U.S. Commission on Civil Rights Virginia State Advisory Board where she served two terms. She also served in leadership positions with the League of Women Voters of Lynchburg.

After a thirty-five-year career, Dr. Griffin retired and started a second career as director of women's ministry with Love Initiated Ventures that Invest in Neglected Groups (L.I.V.I.N.G.) one of Pittsburgh's leading organizations addressing poverty and homelessness.

Dr. Griffin is on the board of the League of Women Voters of Greater Pittsburgh where she serves on the Voter Services Committee and chairs the Membership and Recruitment Committee. Most recently, she was elected co-president of Governance and Administration for the League of Women Voters of Pennsylvania.

Lee Ann Hill, MPH is a senior scientist at PSE Healthy Energy, where she focuses on the impacts of energy production and use on human health, the environment, and climate. Her recent work includes characterizing chemical use and waste streams associated with oil and gas development across multiple states. She has examined the human health hazards and risks associated with underground gas storage, oil and gas development, and produced water reuse. Intent on sharing her findings with relevant and diverse audiences, she has written commentaries, developed data visualization tools, and authored numerous peer-reviewed and technical reports. Lee Ann Hill received her MPH in environmental health sciences from the School of Public Health at University of California, Berkeley.

Tara McAlexander, Ph.D., MPH is an environmental epidemiologist and Post Doctoral Research Fellow in the Department of Epidemiology and Biostatistics at Drexel University's Dornsife School of Public Health. She received her PhD in 2019 from the Department of Environmental Health and Engineering at the Johns Hopkins Bloomberg School of Public Health, where her dissertation research utilized electronic health records to study associations between unconventional natural gas development and heart failure outcomes in Pennsylvania. She also has a Masters of Public Health, specializing in environmental and molecular epidemiology, from the Department of Environmental Health Sciences at Columbia University's Mailman School of Public Health, and a BA in environmental science from Barnard College. Her research interests focus on understanding the environmental and community determinants of chronic disease.

Michael McCawley, M.S.E., Ph.D. is a Clinical Associate Professor in the WVU School of Public Health's Department of Occupational and Environmental Health. He has a doctorate in Environmental Health from the Department of Environmental Medicine at New York University and a Master's degree in Engineering from the Department of Civil and Environmental Engineering at West Virginia University. Dr. McCawley spent over 27 years as a Public Health Service Officer with the Centers for Disease Control and Prevention (CDC) at the National Institute for Occupational Safety and Health (NIOSH), studying miners' health, silica exposure and silicosis, occupational respiratory disease, aerosol measurement and diesel particles. He retired from the US Public Health Service in 2001.

Dr. McCawley has worked on projects as diverse as the toxicity of moon dust and asteroid dust to exposure to beryllium in nuclear weapons construction. His primary interests, however, are in air pollution, aerosols and occupational health. While having worked on nuclear disarmament issues in Kazakhstan and lung cancer research in China, most recently he has been working on issues related to heavy metals exposure in children and on the health effects of Marcellus Shale drilling.

Dr. McCawley was appointed to the Public Water Supply Study Commission in West Virginia after the Elk River Chemical spill and served on a Federal Commission to oversee government efforts to assist people harmed by the 9/11 World Trade Center collapse as well as on a panel for the National Academy of Science concerning the health effects of respirable coal mine dust exposure. He is the author of over 60 peer reviewed publications. He has been awarded the US Public Health Service's Commendation Medal, two Unit Citation Medals and a Foreign Service Medal as well the American Industrial Hygiene Association's David L. Swift Award for Outstanding Aerosol Paper of the year, and the NIOSH Alice Hamilton Award for Engineering and Physical Sciences research.

Lisa McKenzie Ph.D., MPH is an Assistant Research Professor at the Colorado School of Public Health (CSPH) on the University of Colorado Denver's Anschutz Medical Campus. She holds a B.A. in Chemistry from the University of Colorado, an MPH in Epidemiology from the CSPH, and a Ph.D. in Environmental Chemistry from the University of Montana.

Dr. McKenzie's research has contributed to the understanding of how air pollutants and other exposures resulting from the unconventional development of petroleum resources may affect the health of people living in areas with the development. She has testified before the United States Congress and the Denver Metropolitan Regional Air Quality Council on the public health implications of natural gas development.

Dr. McKenzie teaches graduate level and undergraduate level courses in risk assessment and environmental health. She began her career as an analytical chemist with the Environmental Protection Agency, and worked for many years in the private sector as a human health risk assessor and chemist.

Justin Nobel writes on issues of science, social justice and the environment for Rolling Stone, Oxford American and other magazines and literary journals. "The Story of Dan Bright," a book he co-wrote with a New Orleans Death Row exoneree, exposed entrenched corruption and injustice in one of America's favorite cities and was published in 2016 with University of New Orleans Press. His 2017 essay, "The Louisiana Environmental Apocalypse Road Trip," will be published in a forthcoming anthology on environmental writing of the Gulf South by Florida University Press. Justin's work has also been published in Best American Science and Nature Writing 2014, and Best American Travel Writing 2011 and 2016. He is presently working on a book to be published by Simon & Schuster and tentatively titled, "Petroleum-238: Big Oil's Dangerous Secret and the Grassroots Fight to Stop It." The book will discuss how a little-known congressional loophole has allowed the U.S. oil and gas industry to skirt environmental regulations for decades, leading to an ever-expanding trail of radioactive waste, a fast-growing public health crisis, and the rise of a group of unlikely activists determined to save their communities. Justin has reported on environmental issues from the Canadian Arctic, the Outer Islands of Yap, and most US states. He lives in upstate New York with his partner, a dressmaker under the name MissKarret.

Scott Perry Esq., JD is Deputy Secretary of the Office of Oil and Gas Management at the Pennsylvania Department of Environmental Protection. Mr. Perry directs the Bureaus of Oil and Gas Planning and Program Management and District Oil and Gas Operations, and he oversees the development of departmental policy as well as regulatory and technical guidance on oil and gas activities in Pennsylvania. In addition, Mr. Perry oversees outreach and education for the public and regulatory communities.

Scott has more than 10 years of experience with DEP. Prior to his appointment, he served as Assistant Counsel across a wide range of bureaus and offices within DEP, including the bureaus of Oil and Gas, Laboratories, Water Standards and Facility Regulations, Watershed Management, Waste Management and Radiation Protection, along with the Office of Energy and Technology Deployment and the Right-to-Know Office.

Scott holds a Bachelor of Arts degree in General Arts and Sciences - Economic and Environmental Policy from Penn State University and a Doctor of Jurisprudence degree and a certificate in Dispute Resolution from Willamette University College of Law. He was admitted before the Pennsylvania Supreme Court, Federal District Court for the Middle District of Pennsylvania and the U.S. Court of Appeals for the Ninth Circuit as an Attorney and Counselor of Law.

Scott lives in Camp Hill with his wife June, and son Nicholas.

Bruce R. Pitt Ph.D. is Professor in the Department of Environmental and Occupational Health, Graduate School of Public Health at the University of Pittsburgh. In addition, he is Professor of Pharmacology and Chemical Biology (School of Medicine) and Bioengineering. He holds a BA from Brown University and a PhD in Environmental Physiology from The Johns Hopkins University Bloomberg School of Public Health. Dr. Pitt's research focuses on the molecular pharmacology and toxicology of the lung and has been continuously supported by National Institutes of Health for over 30 years including a Method to Extended Research in Time (MERIT) award. He was an Established Investigator of the American Heart Association. He was Chairman of NIH Lung Biology Pathology Study Section and California Tobacco -Related Pulmonary Disease Study Sections and served on NIH Heart Lung Blood Institutes Program Project Review and Mentored Clinician Scientist Review committees. He was a member of Scientific Advisory Board for iNO Therapeutics and Parker Francis Foundation and currently is on Gilead Pharmaceuticals Pulmonary Arterial Hypertension advisory board. Dr. Pitt was Chairman of the Respiratory section of American Physiological Society and Chairman of Pulmonary Circulation and Respiratory Molecular Cell Biology sections of the American Thoracic Society. In addition, he led a recent Heinz Endowments supported study on perinatal outcomes in Southwestern Pennsylvania and Marcellus Shale.

Brian S. Schwartz M.D. M.S. is a Professor in the Department of Environmental Health and Engineering in the Johns Hopkins Bloomberg School of Public Health, where he is Associate Chair of the Department. He is jointly appointed in the Department of Epidemiology in the School of Public Health and in the Department of Medicine in the School of Medicine. He is also a Professor in the Department of Epidemiology and Health Services Research in the Geisinger Center for Health Research in Danville, PA. He served as director of the Division of Occupational and Environmental Health from 1996 to 2006 and as director of the Occupational and Environmental Medicine Residency from 1993 to 1998, and then again from 2016 to the present. He is currently co-director of the Program on Global Sustainability and Health and director of the Geisinger Environmental Health Institute.

Dr. Schwartz received a B.S. degree in chemistry from Tufts University; an M.D. degree from Northwestern University Medical School; and an M.S. degree in clinical epidemiology from the University of Pennsylvania School of Medicine. He completed a residency in internal medicine at the Hospital of the University of Pennsylvania, and then was a Mellon Foundation Scholar in Clinical Epidemiology and a fellow in General Medicine at the same institution. He completed a fellowship in occupational and environmental medicine at the Johns Hopkins School of Hygiene and Public Health, then joined the faculty there as an Assistant Professor.

Dr. Schwartz's research uses epidemiologic methods to evaluate the public health impacts of occupational and environmental exposures. He has studied the health effects of a variety of chemical and metal toxicants in several large-scale, longitudinal studies. More recently, he has been evaluating the public health implications of energy use, land use, food systems, the built environment, and related sustainability issues. He helped found the Geisinger Environmental Health Institute in 2007 in the Geisinger Center for Health Research. The Institute is engaged in a number of environmental epidemiology studies using electronic health record data from the health system on over

400,000 primary care and over 1,000,000 specialty care patients. Ongoing studies include those of animal feeding operations and risk of antimicrobial-resistant infections (including methicillin-resistant *Staphylococcus aureus* [MRSA]); the food, physical activity, land use, and social environments and body mass index in children; the built environment and the burden of abandoned coal mine lands and their associations with type 2 diabetes outcomes; and the public health considerations of unconventional natural gas development (Marcellus shale).

Annette Shimer is a long time member of the League of Women Voters. Her current responsibility is for the Allegheny County portion of the League's on-line system for election and candidate information: Vote411.org. This one-stop-shop for election related information lists all 830 candidates for the more than 400 races for school boards and municipal offices. Air pollution and climate change are major concerns. She participated in the Climate Reality conference in Pittsburgh, is a member of GASP, USC Citizens for Land Stewardship, and for years was the League's representative to the Allegheny County Bureau of Air Pollution Board.

Preston Shimer is a retired records and information management professional who is an active volunteer. He collected your lunch payments today as Treasurer of the LWV of Greater Pittsburgh. He is very concerned about environmental sustainability and is active in land stewardship issues in Upper St. Clair, helps monitor air quality for the Smell Pittsburgh project, led the installation of solar panels on his church in Mt. Lebanon, is a Climate Reality activist and recently was part of a ROCIS cohort in Mt. Lebanon. He served as a Commissioner and School Director in Upper St. Clair.

Sally E. Wenzel MD completed her MD degree at the University of Florida. Following her residency in internal medicine at Wake Forest University and her fellowship in pulmonary and critical care medicine at Virginia Commonwealth University, she spent 19 years at National Jewish and the University of Colorado before moving to the University of Pittsburgh. She received the Elizabeth Rich Award for her role in promoting women in science, the ATS Award for Scientific Achievement, the ATS Foundation Breathing for Life Award, and the ERS President's Award. She is currently Director of the University of Pittsburgh Asthma Institute at UPMC, and Chair for the Department of Environmental and Occupational Health, at the Graduate School of Public Health, University of Pittsburgh. Dr. Wenzel has served as Deputy Editor for the American Journal of Respiratory and Critical Care Medicine and is a frequent reviewer for the New England Journal of Medicine and other publications.

Dr. Wenzel has a passion for understanding and improving the treatment of asthma, in particular severe asthma. She has promoted severe asthma as a complex disease and her studies of asthma phenotypes have led the field in understanding these complexities. Dr. Wenzel has developed a strong translational program to study the pathobiology of severe asthma and its phenotypes, including the role of the environment in the development of these phenotypes.

Linda Wigington provides indoor air quality and residential energy consulting services through her firm, Linda Wigington & Associates. She brings 30 years of building performance experience to her role as leader of the Pittsburgh, PA-based ROCIS (Reducing Outdoor Contaminants in Indoor Spaces) initiative (<http://ROCIS.org>), funded by The Heinz Endowments. Her focus is on low cost monitoring of air quality, and refining interventions that substantially reduce particle counts, whether they are from outdoor or indoor sources. To date, 41 cohorts have engaged 290 people in monitoring particles (0.5+ and 2.5+ um), CO₂, CO, and radon in their homes or workplaces for a three-week period. Over 40 homes have participated in longer term monitoring to gain insight on the impact of filtration strategies, kitchen exhaust hoods, and radon mitigation.

Linda received her master's degree from WVU's Program for the Study of Technology. Her focus of study was community education and residential energy efficiency.

Andrew Williams J.D. directs EDF's efforts to improve environmental performance and oversight of oil and gas and energy issues in the Appalachian region. He manages technical experts and policy advocates, and works with state officials, industry partners and NGOs.

Before joining EDF, Andrew served as Vice President and General Counsel for Hickory Creek Ventures, LLC, a strategic consulting business focused on the nexus between natural resource production, legislative reform, and technology innovation. Immediately preceding Hickory Creek, Andrew was an Operational Officer and Vice President for Atlas Pipeline Mid-Continent in Tulsa Oklahoma. Andrew held previous responsibilities as the Director of Commercial Services for Atlas and the Manager of Environment Health and Safety for Spectrum Field Services.

In addition, Andrew was appointed to and served a two-year term on the advisory council for the Oklahoma Commission on Marginally Producing Oil and Gas Wells. Andrew is a past board member of the Natural Gas and Energy Association of Oklahoma, served on the Legislative and Regulatory Affairs Committee for the Gas Processors Association, and was a PetroPro with the Oklahoma Energy Resources Board.

Andrew received his B.S. in Agriculture and Natural Resources from Oklahoma State University and his J.D. from Oklahoma City University School of Law.

The Hon. Robert Zirkin J.D. is a Maryland State Senator. Bobby (as he is known) attended Johns Hopkins, including a junior year abroad at the London School of Economics, and graduated with a B.A. in Political Science. In 1996, as a first-year law student, Bobby organized a youth campaign bus tour registering young voters. This tour caught the attention of the national media and led to Bobby delivering a prime-time nationally televised speech at the Democratic National Convention. He later earned his Juris Doctorate from the Georgetown University Law Center.

At age 26, fresh out of law school, Bobby was elected to the Maryland House of Delegates in 1998. Bobby served on the Judiciary Committee and focused his attention on K-12 class size reduction, summer education for at-risk youth, and juvenile justice issues. In 2002, as a veteran of the Judiciary Committee, Bobby became the Chairman of the Subcommittee on Juvenile Law, working on important reforms of child welfare in our state.

In 2006 Bobby was successfully elected to the Maryland State Senate. In 2015 Bobby was selected by President Miller to Chair the Judicial Proceedings Committee. Under Bobby's leadership, Maryland created stronger laws against drunk driving, domestic violence, cyberbullying, human trafficking, and reasonable gun safety measures. As Chairman of the Judicial Proceedings Committee, Bobby was instrumental in crafting the Justice Reinvestment Act. The Justice Reinvestment Act is projected to reduce Maryland's prison population by nearly 1,200 inmates over the next 10 years, freeing up \$80.5 million for investment in programs to reduce recidivism rates, treat substance abuse, and enhance community supervision practices. Bobby was also the lead sponsor of a bill that banned "fracking" in the State of Maryland.

SHALE and PUBLIC HEALTH COMMITTEE MEMBERS

Vera Bonnet League of Women Voters of Indiana County, & lead writer of the LWVPA Shale Gas Extraction and Public Health Resource Guide

Etta Albright RN League of Women Voters, Cambria County

Cristina Beuger MPH V.P. League of Women Voters of Greater Pittsburgh

Suzanne Fox League of Women Voters of Greater Pittsburgh

Barbara Harley MD League of Women Voters of Greater Pittsburgh

Heather Harr League of Women Voters of Greater Pittsburgh

Sherene Hess League of Women Voters of Indiana County

Judy Hughes League of Women Voters of Greater Pittsburgh

Cecilia Larson League of Women Voters of Greater Pittsburgh

Deborah Larson League of Women Voters of Greater Pittsburgh

Shirley McIlvried RN MPH League of Women Voters of Greater Pittsburgh

Dr. Don Naragon League of Women Voters of Greater Pittsburgh; LWVPA Board

Clarice Reber Professor Emeritus, Audiology; LWV of Indiana County

Donna Riggle League of Women Voters of Washington County

Raina Rippel SWPA-Environmental Health Project; LWV of Washington County

Annette Shimer League of Women Voters of Greater Pittsburgh Board

Mary Beth Sweeney League of Women Voters of Gtr Pittsburgh & Indiana County

Betty Tatham League of Women Voters of Bucks County; former VP of LWVPA

Dreama VanCise-Watta RN League of Women Voters of Indiana County

Heather Wechter League of Women Voters of Greater Pittsburgh

Dr. Roberta Winters League of Women Voters of Radnor Twp; former LWVPA VP

TECHNICAL ADVISORY COMMITTEE

Seth Shonkoff, Ph.D. MPH Executive Director PSE Healthy Energy
Committee Facilitator

Joan A. Casey Ph.D. Asst. Professor, Columbia Mailman School of Public Health

Nicole Deziel, Ph.D. MHS Assistant Professor, Yale School of Public Health

James Fabisiak, Ph.D. Assoc. Professor, University of Pittsburgh GSPH

Michael McCawley, Ph.D. MSE Clinical Assoc. Professor, WVU Public Health

Lisa McKenzie, Ph.D. MPH Assistant Research Professor, U. Colorado Anschutz

Brian Schwartz, M.D. Professor Johns Hopkins/Senior Investigator Geisinger

“Shale and Public Health”/ 2019
is a project of
the League of Women Voters of Pennsylvania’s
“Straight Scoop on Shale” initiative, which is funded by
grants to the LWVPA Citizen Education Fund, from the

Colcom Foundation

and

THE HEINZ ENDOWMENTS

HOWARD HEINZ ENDOWMENT • VIRA I. HEINZ ENDOWMENT

Find out more about the Straight Scoop on Shale

Like us on Facebook: The Straight Scoop

Follow us on Twitter: @MarcellaShale

shalemarcella@gmail.com

1-800-61-SHALE (1-800-617-4253)

<https://shalepalwv.org>