Concerned Scientists

Headquarters

Two Brattle Square, 6th Floor Cambridge, MA 02138 617-547-5552

Washington, DC 1825 K St. NW, Suite 800

Washington, DC 20006 202-223-6133

West Coast 500 12th St., Suite 3

500 12th St., Suite 340 Oakland, CA 94607 510-843-1872

Midwest

200 E. Randolph St., Suite 5151 Chicago, IL 60601 312-578-1750

Scientists Call for Canceling New Land Based Nuclear Missiles

To President Biden and Congress:

As scientists and engineers, we are acutely aware of the grave risk of nuclear war. We are particularly concerned about the needless dangers created by the deployment of expensive, dangerous, and unnecessary land-based, intercontinental-range ballistic missiles (ICBMs).

Expensive because in January 2024, the cost of the new U.S. ICBM program, Sentinel, rose 37 percent, to \$131 billion for production alone. This represents a "critical breach" of the <u>Nunn-McCurdy Act</u>, mandating a formal re-evaluation of the program by the Pentagon, including an examination of reasonable alternatives. The Secretary of Defense must decide whether to go forward with the program or cancel it, then make that case to Congress.

Dangerous because silo-based missiles are vulnerable to a preemptive attack. As a result, the missiles are kept on "hair-trigger" alert so the president can launch them in less than five minutes, before they are destroyed. Past near misses, including false alarms, miscalculation, and misunderstanding, show how this high alert posture increases the risk of nuclear war, especially because the U.S. president can order the launch of nuclear weapons without consulting anyone else.

Also dangerous because silo-based missiles, deployed in North Dakota, Montana, Wyoming, Colorado, and Nebraska, are intended to act as a "sponge" to attract and soak up incoming nuclear-armed missiles so that they cannot be used on other targets. A <u>recent study published in Scientific American</u> indicated that several million people in the U.S. would be expected to die from the radioactive fallout from such an attack. These deaths could be anywhere in the contiguous United States depending on the weather. In other words, rather than fields of silos harmlessly absorbing an attack, millions of people would die.

Unnecessary because the United States deploys an assured ability to retaliate against a nuclear attack without land-based missiles. Roughly 1,000 nuclear warheads are deployed on U.S. submarines hidden at sea, essentially invulnerable to attack. Submarine-launched ballistic missiles are as accurate as silo-based missiles, quick to respond, and provide more destructive capability than could ever be employed effectively. Specifically, one nuclear detonation can destroy an entire city; hundreds or thousands of detonations would cause millions of immediate deaths, the destruction of critical infrastructure, and potentially catastrophic climate impacts. The U.S. Navy deploys twelve submarines and is working to replace the entire fleet. Silo-based missiles do not provide any important additional capability.

The Pentagon's evaluation of the Sentinel ICBM program is expected to conclude in July 2024. Even if the Pentagon fails to provide alternatives, President Biden and Congress should examine this evaluation with a critical eye and incorporate the facts above in their decisions about the Sentinel program.

We call on President Biden and Congress to cancel the Sentinel program and to retire the U.S. land-based missile force. It is expensive, dangerous, and unnecessary. Such a decision will save Americans more than \$100 billion and make the world safer.

Sincerely,

Steven Balbus FRS, FInstP Savilian Professor of Astronomy Physics University of Oxford Member, National Academy of Sciences UK

Thomas Banks, PhD
Distinguished Professor
Physics
New High Energy Theory Center of Rutgers University
Member, National Academy of Sciences
Member, American Association of Arts and Sciences
NJ

Barry Barish, PhD Linde Professor, Emeritus Physics California Institute of Technology 2017 Nobel Prize Laureate in Physics Member, National Academy of Sciences CA

William Bialek, PhD John Archibald Wheeler, Battelle Professor Physics Princeton University Member, National Academy of Sciences NJ

Mitchell Begelman, PhD
Distinguished Professor
Astrophysics & Planetary Sciences
University of Colorado, Boulder
Member, National Academy of Sciences
CO

Michael R. Botchan, PhD
Dean
Biological Sciences Division, College of Letters and Science
Distinguished Professor
Biochemistry, Biophysics and Structural Biology
University of California, Berkeley
Member, National Academy of Sciences
CA

Alessandra Buonanno, PhD

Director

Max Planck Institute for Gravitational Physics, Germany

Member, United States National Academy of Sciences

Member, German National Academy of Sciences Leopoldina

Member, Italian Accademia dei Lincei

Claude Canizares, PhD

Bruno B. Rossi Distinguished Professor

Experimental Physics

Massachusetts Institute of Technology

Member, National Academy of Sciences

MA

Carlton M. Caves, PhD

Distinguished Professor Emeritus

Physics

University of New Mexico

Member, National Academy of Sciences

NM

Martin Chalfie, Ph.D.

University Professor

Biological Sciences

Columbia University

Nobel Prize in Chemistry, 2008

Member, National Academy of Sciences

NY

Tara Drozdenko

Director, Global Security Program

Union of Concerned Scientists

David Eisenberg, PhD

Distinguished Professor

Paul D. Boyer Chair

Molecular Biology

University of California, Los Angeles

Member, National Academy of Sciences

CA

Sandra M. Faber, PhD

Professor Emerita

Astronomy and Astrophysics

University of California Santa Cruz

Astronomer Emerita

University of California Observatories

Member, National Academy of Sciences

CA

Steve Fetter Professor,

School of Public Policy

University of Maryland

Former assistant director at-large, White House Office of Science and Technology Policy

Eduardo Fradkin, PhD

Donald Biggar Willett Professor Director, Institute for Condensed Matter Theory Physics University of Illinois Member, National Academy of Sciences

Robert W. Field, PhD Haslam and Dewey Professor, Emeritus Chemistry Massachusetts Institute of Technology Member, National Academy of Sciences MA

Sheldon Glashow, PhD Higgins Professor, emeritus Physics Harvard University 1979 Nobel Prize Laureate in Physics Member, National Academy of Sciences MA

Gabriela González, PhD Boyd Professor Physics and Astronomy Louisiana State University Member, National Academy of Sciences LA

Laura Grego Research Director, Global Security Program Union of Concerned Scientists

David Gross, PhD Chancellor's Chair Professor Theoretical Physics Kavli Institute For Theoretical Physics University of California, Santa Barbara 2004 Nobel Prize Laureate in Physics Member, National Academy of Sciences CA

Martin Gruebele, PhD James R. Eiszner Endowed Chair Chemistry University Of Illinois, Urbana-Champagne Member, National Academy of Sciences IL

Roger Kornberg, PhD Mrs. George A. Winzer Professor of Medicine Structural Biology Stanford University 2006 Nobel Prize Laureate in Chemistry Member, National Academy of Sciences CA Frederick K. Lamb Research Professor of Physics and of Astronomy Core Faculty Member, Program in Arms Control & Domestic and International Security University of Illinois

Joel L. Lebowitz, PhD
Distinguished Professor
George William Hill Professor
Mathematics and Physics
Rutgers University, New Brunswick
Member, National Academy of Sciences
NJ

Anthony Leggett, PhD
Professor Emeritus
Physics
University of Illinois, Urbana-Champaign
Member, National Academy of Sciences
2003 Nobel Prize Laureate in Physics
IL

Tom Lubensky, PhD Christopher H Browne Distinguished Professor Emeritus Physics and Astronomy University of Pennsylvania Member, National Academy of Sciences PA

Elliott Lieb, PhD
Professor of Mathematics and Higgins Professor of Physics, Emeritus
Princeton University
Member, National Academy of Sciences
NJ

John C. Mather, PhD Member, National Academy of Sciences 2006 Nobel Prize Laureate in Physics

Christopher McKee, PhD Professor Emeritus Physics University of California, Berkeley Member, National Academy of Sciences CA

N. David Mermin, PhD Horace White Professor, Emeritus Physics Emeritus Cornell University Member, National Academy of Sciences NY

David Politzer, PhD Richard Chace Tolman Professor Theoretical Physics California Institute of Technology 2004 Nobel Prize Laureate in Physics CA

Stewart Prager

Professor of Astrophysical Sciences and affiliated faculty member, Program on Science and Global Security Princeton University

Joel Primack

Distinguished Professor of Physics Emeritus

University of California, Santa Cruz

Recipient, AAAS Philip Hauge Abelson Prize, 2024

Recipient, American Physical Society Lilienfeld Prize 2020

Helen Quinn, PhD

Professor, Emerita

Particle Physics and Astrophysics

SLAC National Accelerator Laboratory

Stanford University

Member, American Academy of Arts and Sciences

Member, National Academy of Science

CA

Sir Richard J. Roberts, Ph.D. F.R.S.

Chief Scientific Officer

New England Biolabs

1993 Nobel Prize Laureate in Physiology or Medicine

Eric Selker, PhD

Professor Emeritus

Biology

University of Oregon

Member, American Academy of Arts and Sciences

Member, National Academy of Science

OR

John Tranquada, PhD

Member, National Academy of Sciences

Scott Tremaine

Professor Emeritus

Astrophysics

Institute for Advanced Studies

Princeton University

Member, National Academy of Sciences

NJ

Frank von Hippel

Senior Research Physicist and Professor of Public and International Affairs, Emeritus

Co-Founder, Program on Science and Global Security

Princeton University

Robert A. Weinberg, Ph.D.

MIT Director

MIT Ludwig Center for Molecular Oncology

Member, Whitehead Institute for Biomedical Research

Professor Biology Massachusetts Institute of Technology

Robert Wilson, PhD Harvard-Smithsonian Center for Astrophysics 1978 Nobel Prize Laureate in Physics Member, National Academy of Sciences MA

David Wright
Visiting Fellow,
Laboratory for Nuclear Security and Policy
Department of Nuclear Science and Engineering, MIT

Carl Wunsch, PhD Cecil and Ida Green Professor, Emeritus Physical Oceanography Massachusetts Institute of Technology Member, National Academy of Sciences MA

Ali Yazdani James S. McDonnell Distinguished University Professor Physics Princeton University Member, National Academy of Sciences NJ Bonnie Abel, Ph.D. **Social Sciences**

Bharat Adarkar, M.A./M.S. Pharmacy, Materials Sc, Package Design, Dev, Validation, Process Transfer

Michele Alexander, Post doc

Epidemiology

Ph.D.

NIH Retired

Mary Alexine, M.A./M.S.

Social Sciences

Licensed Clinical Professional

Counselor

Two Medicine Counseling

Margaret Alic, Ph.D.

Biology

Magda Altman, Ph.D.

Linguistics

Arshad Ameen, M.A./M.S.

Engineering

Structural Engineer Memphis Intetfaith

Lynda Ames, Ph.D. Social Sciences **Professor Emerita**

SUNY

Chris Anctil, B.A./B.S.

Engineering

Virginia Anderson, Ph.D.

Social Sciences Stanford University

Marc Anderson, M.A./M.S.

candidate Engineering Owner

Marc Anderson, P.E.

Cindy Angerhofer, Ph.D.

Chemistry

Feroza Ardeshir, Ph.D.

Biology Retired

Agouron institute

Kevin Ascher, B.S.

Engineering **ASME**

Richard Askins, M.A./M.S.

Engineering

Professionally Licensed NJ Structural Engineer, retired

Princeton & MIT

J Gary Augustson, M.A./M.S.

Computer Science

Vice Provost Information Technology, Emeritus

The Pennsylvania State University

Stephen Bachhuber, M.D. Medicine/Medical Research

Norman Baker, Ph.D.

Ecology

Carryl Baldwin, Dr. P.H.

Social Sciences Professor UNK

Michael Balsai, Ph.D.

Earth Sciences

Jeremy Baptist, M.D.

Medicine/Medical Research

Ron Bardell, Ph.D.

Engineering Senior Partner

Microfluidic Sciences LLC

Eddie Baron, Ph.D. Physical Science Senior Scientist

Planetary Science Institute

David Barrows, Ph.D.

Social Sciences

Paula Barsamian, M.A./M.S.

Biology

Jerry Sue Bassalleck, Ph.D.

Life Science

Retired Senior Operational Analyst

American Systems Corp.

Ernst Bauer, Ph.D. Physical Science Professor emeritus Arizona State University

Gary Baxel, B.A./B.S.

Engineering

Eric Beam, B.A./B.S.

Engineering Consultant Lehigh University

Elizabeth Beaudoin, D.V.M. Medicine/Medical Research

Gary Beckerman, M.A./M.S.

Earth Sciences State-certified PG State of California

William Beckett, M.D. Medicine/Medical Research Medical Staff emeritus Mount Auburn Hospital

Robert Beggs, Ph.D.

Mathematics

Ann Behmann, M.D.

Medicine/Medical Research Honorary Fellow, U WI SMPH,

Dept of Pediatrics

U of WI School of Medicine and

Public Health

Reza Behrouzi, Ph.D.

Biology Scientist

Generate Biomedicines

Richard Behymer, M.D. Medicine/Medical Research

Peter Belau, B.A./B.S.

Engineering

P.E. UWI William Belknap, M.A./M.S. Environmental Science

Doug Bender, Ph.D. Engineering

Douglas Benedict, M.A./M.S. Engineering

Joel Berger, Ph.D.

Biology Principal

JP Berger Consulting

Michael Bergman, Ph.D.

Social Sciences

Licensed Psychologist

The University of Texas at Austin

Jerry Berkman, M.A./M.S.

Computer Science

Joseph Berkson, M.D. Medicine/Medical Research

Stéphanie Bernatchez, Post doc Medicine/Medical Research Senior Specialist, Scientific &

Medical Writing

Solventum (previously 3M Health

Care)

Norman Bishop, B.A./B.S.

Biology

Resources Interpreter National Park Servicd

Kevin Bissonnette, D.V.M.

Biology

Shawn Blaesing, M.A./M.S.

Earth Sciences

Lecturer

Iowa State University

Elliott Blass, Ph.D.

Life Science

Michael Bleicher, Ph.D.

Mathematics
Prof emeritus
UW- Madison

Arienne Bloomingdale, M.P.H.

Public Health

C.R. Boardman, M.A./M.S.

Engineering

General Engineer (Retired)

US Forest Service

Theresa Bohannan, M.P.H.

Public Health

Susan Bollinger, Ph.D.

Life Science Retired

U. S. Department of Agriculture

Jim Bolstad, M.A./M.S.

Chemistry

John Booker, Post doc

Public Health Professor

University of New Mexico

Kristina Borror, Ph.D.

Biology

Director, Human Subjects

Protections

Veterans Health Administration

J. Michael Bossert, M.A./M.S.

Mathematics

Emeritus Professor of Mathematics

CSU. Sacramento

Helen Boucher, Ph.D.

Social Sciences

Professor

Bates College

Kathryn Bourgoin, M.D. Medicine/Medical Research

Douglas Bovee, M.D.

Medicine/Medical Research

Larissa Bowman, D.V.M. Medicine/Medical Research

Richard Bradus, M.D.

Medicine/Medical Research

Barbara Brandom, M.D. Medicine/Medical Research

John Brennan, Ph.D. candidate

Earth Sciences

Asst Prof. Emeritus

US Naval Postgraduate School,

Monterey CA

Kenneth Brennen, Ph.D.

Chemistry

Jonathan Brier, Ph.D. candidate

Information Studies
Data Services Librarian
Ohio University

William Briggs, Ph.D.

Earth Sciences

Keith Brill, M.A./M.S.

Earth Sciences

Matthijs Broer, Ph.D.

Physical Science CEO/Founder MMB140 LLC

John Brooks, D.V.M.

Medicine/Medical Research

Claire Broome, M.D.

Public Health Adjunct faculty Emory University

Matthew Brown, M.P.H.

Public Health

Patricia Brown, M.A./M.S.

Biology

Barbara Brunell, M.A./M.S.

Life Science

Morton Brussel, Ph.D.

Physical Science Professor emeritus

UIUC

Barbara Bryce, M.A./M.S.

Social Sciences

Joan Budd, M.D.

Medicine/Medical Research

John Burgess, M.A./M.S.

Engineering

Richard Burian, Ph.D.

History/Philosophy of Science

Professor Emeritus

Virginia Tech

Kristopher Burrell, Ph.D.

History/Philosophy of Science

Associate Professor

Hostos Community College

Ruth Burstrom, M.D.

Medicine/Medical Research

Barbara Burton, M.A./M.S.

Social Sciences

Psychotherapist, Executive

Director, et. al. formerly

Previous - UAB, Omega

International GYN Institute,

Private Practice

Hooman Bustani, M.A./M.S.

Engineering

Janine Busz, B.A./B.S.

Engineering

ΕI

OSU

Timothy J Byrnes, M.D.

Medicine/Medical Research

Gwendolyn Calhoon, Ph.D.

Medicine/Medical Research

Staff Educator/Laboratory

Instructor

Bates College

Christian Camphire, M.A./M.S.

Environmental Science

Teacher/Instructor

Booker High School

Andrew Carman, Ph.D.

Clinical Psychology

Barbara Carr, M.A./M.S.

Medical micro, environmental

science, public health

Associate professor

CCBC

Robert Case, Ph.D.

Mathematics

Professor, ret.

Northeastern University Boston

Regina Cassidy, M.A./M.S.

Urban & Regional Planning

Kicab Castaneda-Mendez,

M.A./M.S.

Mathematics

Peg Challgren, M.A./M.S.

Biology

Teacher

ISD 191

Ron Chandler, Ph.D.

Social Sciences

Professor & Undergraduate

Coordinator

University of Florida

Gib Chase, M.A./M.S.

Environmental Science

Theodore Chase Jr, Ph.D.

Chemistry

Professor

Rutgers University (emeritus)

Barbara Chasin, Ph.D.

Social Sciences

Professor Emerita

Montclair State University

Kristen Cheney, Ph.D.

Social Sciences

Professor

University of Victoria

Andrea Chin, M.A./M.S.

Social Sciences

Jason Chinn, M.A./M.S.

Chemistry

Senior Scientist

PCAS-Nanosyn

Craig Christenson, B.A./B.S.

Engineering

Project manager

MCES

Malcolm Cleaveland, Dr. P.H.

Earth Sciences

Professor Emeritus of Geosciences

U. of Arkansas - Fayetteville

Alicia Clifton, M.A./M.S.

International conflict resolution

Todd Cochran, Ph.D.

Chemistry

Professor Emeritus

University of Montana

Charles Cohen, Ph.D.

Earth Sciences

Natalie Cohen, Ph.D.

Biology

Jennie Cohen, M.A./M.S.

Counseling

Licensed Marriage and Family

Therapist

Kaiser Permanente

Mike Cohn, D.V.M.

Medicine/Medical Research

Doctor

Critter Clinic

Emily Coll, M.A./M.S.

Biology

Technology Licensing Manager

Corteva Agriscience

Ligia Collado Vides, Ph.D.

Biology

Teaching Professor

Florida International University

Robert Colson, M.A./M.S.

History/Philosophy of Science

Irene Combs, OD Medicine/Medical Research Doctor of Optometry Illinois College of Optometry

D Conversi, Ph.D. Social Sciences Professor EHU

Charles and Joan Coston, Ph.D. Chemistry

Evan Cragin, Ph.D. Engineering, Business Professor

Missouri Southern State University (retired)

Ann Craig, M.D.

Medicine/Medical Research

Bernard Crain, M.D. Medicine/Medical Research

Scott Crass, Ph.D. Mathematics Professor CSULB

Morgan Crawford, M.A./M.S. Environmental Science Energy Manager USF

Kyle Crider, M.P.H. candidate Environmental Science Program and Policy Director The People's Justice Council

Frederick Cross, Ph.D. Biology

Professor

Rockefeller University

Florence Cua, Ph.D. Environmental Science

Laurette Cucuzza, M.P.H.
Public Health
Senior Technical Advisor
Howard Delafield International
LLP

Frank Cummings, Ph.D.

Education

Nancy D'Angelo, M.A./M.S. Analytical chemistry

Barbara Daoust-Westbrooks, M.P.H.

Public Health

Camille D'Ascoli, Ph.D.

Social Sciences Clinical Psychology

Psychologist

South Carolina Department of

Juvenile Justice

Jerry Dauth, M.A./M.S.

Engineering

Robert Davidson, B.A./B.S.

Engineering

Caroline Davies, Ph.D.

Earth Sciences Associate Professor

University of Missouri Kansas

City

Myles Davis, B.A./B.S.

Engineering

Vice President engineering

SAE

Richard Dawson, B.A./B.S.

Mathematics

Joe Day, B.A./B.S. Physical Science

Mason Deaver, M.A./M.S.

Computer Science

Advanced Software Engineer

(retired)

Communications & Power

Industries

Alexander DeCicco, M.A./M.S.

Computer Science

Scott Derrickson, Ph.D.

Ecology

Jim Derzon, Ph.D. Social Sciences

James Deshotels, M.P.H.

Public Health

Ralph DeSorbo, B.A./B.S.

Engineering

Professional Electrical Engineer (formerly licensed in New York

State) IEEE

John Devendorf, Ph.D.

Social Sciences

Loren Devito, Ph.D.

Biology

Susan Diaz, M.D.

Medicine/Medical Research

Robert Dickinson, B.A./B.S.

Engineering

Senior Engineer, retired

UTC

Martha Dickinson, Ph.D.

Physical Science

Barbara Dincau, Ph.D.

Education

Lawrence Dingman, Ph.D.

Earth Sciences Professor

University of New Hampshire

ROLLIN DIX, Ph.D.

Engineering

Professor Emeritus

Illinois Institute of Technology

Ann Dorsey, M.A./M.S.

Ecology

David Dougherty, Ph.D.

Chemistry

Retired

Formerly, Brookhaven National

Laboratory

James Doyle, Ph.D. Mark Escajeda, M.D. Manuel Fiadeiro, Dr. P.H. Life Science Medicine/Medical Research **Earth Sciences Professor Emeritus** Doctor Gilbert Field, M.A./M.S. University of California Davis **PDI Surgery Center Economics** Benjamin Etgen, M.A./M.S. Ramona Draeger, M.A./M.S. Contracting Officer - Retired Medicine/Medical Research Mathematics **US Navy** RNProfessor Linda Fielder. Post doc Vitas American River College Chemistry Karen Duckwall, M.D. Joseph Evelyn, M.A./M.S. Laura Figueroa, Ph.D. Medicine/Medical Research Engineering **Ecology** Marc Dumas, M.D. Linda Evinger, M.A./M.S. **Assistant Professor UMass Amherst** Medicine/Medical Research Mental Health Nursing Medical Director Clinical Assistant Professor of Tessa Fischer, M.D. **CRNA** Nursing Emerita Medicine/Medical Research University of Southern Indiana Tithi Dutta Roy, Ph.D. MD Engineering Kathleen Fagan, M.D. Presence Health Public Health Aileen Eagleton, Ph.D. Stephan Flint, M.A./M.S. Adjunct assistant professor Chemistry **Ecology** Case Western Reserve University Research Associate Jim Eckert, Post doc Rita Fahrner, M.A./M.S. Utah State University (retired) **Earth Sciences** Medicine/Medical Research Research Scientist Adam Flogel, M.A./M.S. RN, MS, NP, CNS Yale University Engineering **SFGH** Christopher Eliot, B.A./B.S. Heather Flueger, M.P.H. Amy Faivre, Ph.D. Computer Science Public Health **Biology** Public Health Sanitarian **Professor of Biological Sciences** Jeff Elison, Post doc Minnesota Department of Health Cedar Crest College Social Sciences Full Professor Wes Foell, Ph.D. Barry Fass-Holmes, Ph.D. Adams State University Engineering Social Sciences Student Services Professional Paula Enstrom, M.P.H. Richard Foreman, Ph.D. San Diego State University Public Health **Biology** RN Professor Steven Federman, Ph.D. **SBLHS** Albany State University Physical Science **Professor Emeritus** Eileen Entin, Ph.D. Mike Foreman, B.A./B.S.

University of Toledo

Ryszard Feldman, M.A./M.S.

Engineering

Social Sciences

State Government

Ecology Attorney

Chris Erickson, M.A./M.S.

John Felton, Ph.D. Social Sciences **Professor Emeritus** University of Evansville Scott Forrest, B.A./B.S.

Chemistry Senior engineer

Engineering Project Manager

CPI

NSPE

William Forrest, Ph.D. Physical Science Professor of Astronomy University of Rochester

Chanese Forte, Ph.D.

Public Health Senior Scientist

Union of Concerned Scientists

Patricia Foschi, Ph.D. Earth Sciences Professor Emerita

San Francisco State University

Deborah Frank, M.D.

Medicine/Medical Research

Professor of Child Health and Well

Being

Chobanian and Avedisian Boston University School of Medicine

Hedley Freake, Ph.D.

Life Science

Professor Emeritus

University of Connecticut

Patricia Frey, M.A./M.S.

Human nutrition and critical care

nutrition

Director of Clinical Dietetics Bayhealth Med. Ctr & Adjunct Prof in Clin Nutr University of

Delaware

Mark Friesen, Post doc Physical Science Distinguished Scientist

University of Wisconsin-Madison

Alan Fryar, Ph.D. Earth Sciences Professor

University of Kentucky

Lee Galbraith, Dr. P.H. Physical Science

FICER

Juan Gallardo, Ph.D. Physical Science

Senior Scientist

Marc Garcelon, Ph.D. Social Sciences Associate Professor

University of Missouri-Kansas

City

Margarita García, Ph.D.

Biology

Director of Analytics

PHC

Albert Garcia-Romeu, Ph.D. Medicine/Medical Research

Associate Professor Johns Hopkins

Jan Gardner, M.D.

Medicine/Medical Research

Doctor

Southern California Permanente

Medical Group

Paul A. Gardner, Ph.D.

Biology

Professor Emeritus Snow College

Kristen Gardner, Ph.D.

Social Sciences

Jenene G Garey, Ph.D. Environmental Science

Professor NYU

Jean Garren, M.A./M.S.

Social Sciences

Steven Gary, M.A./M.S.

Earth Sciences

Peter Gegenheimer, Post doc

Biology

Lawrence Gibel, M.D. Medicine/Medical Research

Associate Professor University New Mexico

Richard Gilpin, Ph.D.

Medicine/Medical Research

Professor Emeritis

Johns Hopkins University

Marian Glenn, Ph.D.

Biology

Rachel Godbout, M.A./M.S.

Biology

Research Analyst UW-Madison

Shaunna Goldberry, M.A./M.S.

Biology

Project Coordinator

ESA

Virginia Goldrick, Ph.D.

Social Sciences

Margaret Goodman, Ph.D.

candidate Mathematics

Beverly Goodman, M.D. Medicine/Medical Research

Ron Goodman, Ph.D.

Biology

Philip Gordon, Ph.D.

Life Science

Eve Gordon, M.D.

Medicine/Medical Research

Bill Gorham, Ph.D.

Ecology

Sharon Gourdji, Ph.D. Environmental Science

Agricultural Model Developer

Moody's

Paul Grannis, Ph.D.

Physical Science

Distinguished Professor emeritus

and Research Professor Stony Brook University

Pamela Grant, Ph.D.

Nursing

Nurse educator

St. Louis University

Judith Green, Ph.D.

Medicine/Medical Research

Emeritus Professor

William Paterson University of

New Jersey

Jill Greer, Ph.D. Social Sciences

Professor

Missouri Southern State University

Georgia Griffin, D.O.

Medicine/Medical Research

Jay Groppe, Ph.D.

Biology

Associate Professor

Texas A&M University

Nevin Grossnickle, Ph.D.

Biology

Professor of Biology, Emeritus University of Wisconsin System

David Gurarie, Ph.D.

Mathematics

Professor

CWRU

Peter Gusmorino, D.V.M.

Medicine/Medical Research

DVM

Ivy Pets

Denis Hall, A.D./A.S.

Computer Science

Lawrence Hager, M.A./M.S.

History/Philosophy of Science

Kristian Hajny, Ph.D.

Environmental Science

Senior Postdoctoral Associate

Stony Brook University

Leah Hallow, Ph.D.

Social Sciences

Doctor

JCCA

Elizabeth Hamilton-Byrd, M.D.

Medicine/Medical Research

Robin Hamlin, M.A./M.S.

Biology

Andrea Hankins, M.A./M.S.

Mathematics

Research Data Engineer

Sutter Health

Laura Hanks, M.A./M.S.

Medicine/Medical Research

Ryan Hanson, M.A./M.S.

Social Sciences

Stephen Hanzely, Ph.D.

Physical Science

Professor Emeritus of Physics and

Astronomy

Youngstown State University

Patricia Harlow, Ph.D.

Biology

Marilynn Harper, M.A./M.S.

Physical Science

Senior Adjunct Instructor

Delaware County Community

College

Fred Harris, Ph.D.

Physical Science

Professor

University of Hawaii

David Harris, M.D.

Medicine/Medical Research

Attending physician

Boston Childrens Hospital

Hasson Harris Wilcher, B.A./B.S.

Engineering

Biomedical Technician

GE Healthcare

Charles Hash, Ph.D.

Agriculture

Senior Scientist (Breeding),

Retired

ICRISAT, part of the CGIAR

Christine Hass, Ph.D.

Biology

Jeanette Hassin, Ph.D.

Social Sciences

Lisa Hatch, M.P.H.

Public Health

Bruce Hawkins, Ph.D.

Physical Science

Professor Emeritus of Physics

Smith College

Jessica Hayes, M.A./M.S.

Social Sciences

Clinical psychologist

University of Michigan

Dr. Sarah Haynes, Ph.D.

Physical Science

Jo Anna Hebberger, Ph.D.

Ecology

Mary Hebblewhite, M.D.

Medicine/Medical Research

MD Endocrine, Fellow American

Academy of Clinical

Endocrinology,

Atlanta Diabetes Associates

(retired)

Ulrich Heinz, Ph.D.

Physical Science

Professor

The Ohio State University

Karin Hemmingsen, M.D.

Medicine/Medical Research

Donald W. Henderson., Ph.D.

Physical Science

Sven Heydenreich, Dr. P.H.

Earth Sciences

Hollis Higgins, B.A./B.S.

Writing/Psychology

Secretary

Veterans For Peace

Alfred Higgins, M.D.

Medicine/Medical Research

Frederick Hills, M.A./M.S. Stephen Hunt, M.A./M.S. J. Scott Jiusto, Ph.D. Life Science **Social Sciences** Engineering RN **Professor Emeritus** Stan Hills, B.A./B.S. University of Alabama Hospital Worcester Polytechnic Institute Hazardous materials Chief Michael Iltis, Ph.D. Ashutosh Jogalekar, Ph.D. **MDFR Mathematics** Chemistry Eric Hintsa, Ph.D. Monika Ivancic, Ph.D. Philip Johns, Ph.D. Chemistry **Physical Science** Chemistry Research Scientist NMR facility manager Ann Johnson, M.A./M.S. University of Vermont University of Colorado Medicine/Medical Research Joseph Hiss, M.A./M.S. John Ivens, Ph.D. Alan Johnson, Ph.D. Social Sciences **Ecology** Social Sciences Rob Hoeffler, M.A./M.S. Richard Jackson, M.D. Don Johnson, Ph.D. Medicine/Medical Research Medicine/Medical Research Mathematics Ann Hoffenberg, M.A./M.S. Veronica Jacobi, B.A./B.S. **Professor Emeritus Biology** Engineering New Mexico State University Principal Energy & Environment Karen D Holl, Ph.D. Sherwood Johnson, D.V.M. PE **Environmental Science** Medicine/Medical Research Professor Karen Jacques, Ph.D. Veterinary Internist University of California, Santa Social Sciences **VMSP** Cruz Stanislav Jaracz, Ph.D. Angeline Johnson, M.P.H. Thomas Holley, M.A./M.S. Public Health Chemistry President Engineering Robert Johnstone, M.A./M.S. New Jersey Electric Vehicle Patricia Hoover, B.A./B.S. Physical Science Association Semiconductor Enginner and CPA Medicine/Medical Research University of Texas at El Paso Laboratory Clinical Scientist III Jo Jeffries, M.A./M.S. Retired from Boston Children's **Nursing Admin** Jay Jones, Ph.D. Hospital, formerly MGH, Shriners Kenneth Jenrow, Ph.D. Biology, Chemistry and Geology Burn, DFCI Prof. Emeritus of Biology and Medicine/Medical Research Ke Chiang Hsieh, Ph.D. Associate Professor **Biochemistry** Physical Science Central Michigan University University of La Verne **Proefessor Emeritus of Physics** Christopher J Jensen, Ph.D. Michael Jones, Dr. P.H. University of Arizona **Ecology** Physical Science

Jennifer Jerlstrom, M.A./M.S. candidate

Associate Professor

Pratt Institute

Lisa Hughes, Dr. P.H.

Ronald W. Hull, Ph.D.

Texas Southern University

Public Health

Director, retired

Education

candidate Biology Chemistry Professor

Harvard University

Univ. of Hawaii (retired)

Douglas Jones, Ph.D.

Researcher

Laura Jones, Ph.D. William Keller, Ph.D. James Klick, M.D. Medicine/Medical Research Physical Science Behvioral Ecology Senior statistician **Ecologist** Lorelette Knowles, M.A./M.S. **Bassett Research Institute** St. Joseph's University Music, library science Don Kelley, M.D. Julia Jorgensen, Ph.D. Joseph Kohn, M.D. **Social Sciences** Medicine/Medical Research Public Health Daniel Judge, Ph.D. Fredric Kellogg, M.D. Founder **Social Sciences** Medicine/Medical Research We Are One, Inc Associate professor, emeritus Henry Kahn, M.D. Janet Kolodner, Ph.D. Mount Sinai School of Medicine Public Health Computer Science **Professor Emeritus** George David Kerlick, Ph.D. Regents' Professor Emerita Emory University School of Physical Science Georgia Institute of Technology Medicine Peter Kerr, Post doc John Kolstoe, M.D. Angela Kantola, M.A./M.S. **Biology** Medicine/Medical Research State Scientist **Ecology** Rheumatologist Fish & Wildlife Biologist, Retired California Department of Food and Michigan State University US Fish and Wildlife Service Agriculture Walter Korfmacher, Ph.D. Harry Kershner, Ph.D. candidate James Kantor, M.P.H. Chemistry Social Sciences **Environmental Science** Steve Krevisky, M.A./M.S. Theresa Kardos, M.A./M.S. Harry Kershner, Ph.D. candidate Mathematics Social Sciences **Environmental Science** Robert Kuehn, M.A./M.S. John Karlin Ph.D., Ph.D. Elizabeth Kinney, M.D. Engineering **Social Sciences** Medicine/Medical Research Michael Kutilek, Ph.D. Retired Professor Douglas Kinney, DMD **Biology** Phillips University **Dentistry Professor Emeritus** Laurie Kauffman, Ph.D. San Jose State University Martha Kirpes, Ph.D. Social Sciences **Environmental Science** Evan Kutta, Ph.D. Joel Kay, M.D. Curriculum and Outreach Earth Sciences Medicine/Medical Research Coordinator Gordon LaBedz, M.D. University of Michigan--Ann Medicine/Medical Research Kathleen Kaysinger, Ph.D. Arbor Medicine/Medical Research Family Physician Dave Kisor, B.A./B.S. Kaiser Permanente Retired **PMW ICON** Geographical analysis Tim Laidman, B.A./B.S.

Leonard Kisslinger, Ph.D.

Renee Klein, M.A./M.S.

Physical Science

Education Educator

LAUSD

Engineering Retired engineer

Green Party Contra Costa County

Council elected member

Frances Lamberts, Ph.D.

Social Sciences

Bobby D Keeland, Ph.D.

Mary Keeler, Dr. P.H.

Computer Science

Ecology

Jennifer Landolfi, Ph.D. Medicine/Medical Research Clinical Associate Professor University of Illinois Urbana-Champaign

Rene Langis, Ph.D. **Environmental Science** Senior Environmental Planner **Private Consulting Firm**

Don Langstaff, Ph.D. candidate Education Customer service

Vastu Partners

Carol Lapp, Ph.D. Medicine/Medical Research Endocrinology

Pat LaStrapes, M.B.A. Engineering

George Latta III, M.D. Medicine/Medical Research

Glen Lawrence, Ph.D. Chemistry

Sandy Lawrence, M.D. Medicine/Medical Research

Breck Lebegue, M.D. Medicine/Medical Research Climate Health Task Force WA Physicians for Social Responsibility

Dennis Ledden, M.A./M.S. **Social Sciences**

Kenneth Lederman, Ph.D. candidate Social Sciences Geography

Michael Lee, D.V.M. Medicine/Medical Research

C. Virginia Lee, M.D. Public Health Medical Officer **ATSDR**

Charlotte Lehmann, M.A./M.S.

Earth Sciences

Scott Lenthe, Ph.D.

Education

Professor Emeritus Zane State College

Jeffrey Levett, Ph.D. Public Health

Professor

Philosophical World Forum

Susan Lewis, D.V.M. Medicine/Medical Research

Shawn Lewis, B.A./B.S.

Engineering Lead Engineer U.S. Navy

Victor Lidz, Ph.D. **Social Sciences Professor Emeritus**

Drexel College of Medicine

Carolyn Liesy, M.A./M.S.

Biology

Benjamin Liles, Ph.D.

Biology

Ronald Lindsay, M.A./M.S. **Environmental Science** Senior physicist

University of Washington

Virgene Link-New, D.D.S. Medicine/Medical Research D.D.S.

U.W.

Mini Liu, M.D.

Medicine/Medical Research

Susan Loomis, M.A./M.S.

Nursing RN

Swedish Medical Center

John Lorand, Ph.D.

Chemistry

Professor Emeritus

Central Michigan University

Herbert Lord, Ph.D.

Engineering

Robin Lorentzen, Ph.D.

Social Sciences Professor Emerita The College of Idaho

Rosa Lucas, M.A./M.S. Medicine/Medical Research

FNP.BC Cvvim

Michael Luciano, M.A./M.S.

Social Sciences

Care-Linkage Mgr/Clinical

Educator

Palmetto Community Care

Mark Lundholm, M.A./M.S. **Environmental Science**

Stephen C Maack, Ph.D.

Social Sciences

Henry Maar, Ph.D.

History/Philosophy of Science

Donald Macalady, Ph.D.

Chemistry

Ruby MacDonald, Ph.D.

Biology

Stephen Maclean, Ph.D.

Ecology

Professor emeritus

University of Alaska Fairbanks

Maria Magana, M.A./M.S.

Computer Science

Retired Electrical Engineering

manager

UC Berkeley, UCLA

Jed Maker, M.D. Life Science

Charles Malone, Ph.D. Physical Science Scientist

Jet Propulsion Laboratory, Caltech

Elizabeth Maloney, Dr. P.H. Public Health

Paul Manganiello, M.D. Medicine/Medical Research Emeritus Professor Obstetrics and Gynecology Geisel School of Medicine at Dartmouth

John Manning, Ph.D. Engineering

Jill Manske, Ph.D. Education

Ara Marderosian, B.A./B.S. Engineering

Board Secretary

Sequoia ForestKeeper

David Mark Welch, Ph.D.

Biology

Senior Scientist

Marine Biological Laboratory

Tracy Marotta, M.A./M.S. Social Sciences Standards Compliance Analyst Brooklyn College CUNY

Philip Marrone, Ph.D. Engineering

Frank Marshalek PhD MPA, Dr.

Social Sciences

Researcher/Course Insructor

Indiana University

Katherine Martin, M.D. Medicine/Medical Research

Victoria Martinez, M.A./M.S. Mathematics Math professor/Env. Engineer Retired/NW Fl State College; FL DEP Kathy Mason, Ph.D. Social Sciences

Douglas Mason, B.A./B.S.

Agriculture

Albert R. Matheny, Ph.D.

Social Sciences Professor Emeritus University of Florida

Albert R. Matheny, Ph.D.

Social Sciences Professor Emeritus University of Florida

Kate Mathis, D.V.M.

Public Health

Assistant professor retired

UIWRSO

Kelly Matthews, Ph.D.

Chemistry

Professor of Chemistry

Harrisburg Area Community

College

Stefan Maus, Dr. P.H. Physical Science Senior Scientist

University of Colorado Boulder

Eric McCall, Ph.D. Computer Science VP Engineering Klaviyo, Inc.

Cynthia McCarthy, M.A./M.S.

Biology

 $Kathryn\ McChesney,\ M.A./M.S.$

Engineering

Senior Control Software Engineer

Walt Disney Imagineering

Gloria McClintock, M.A./M.S.

Education

Program Specialist

Burlingame School District

Libby McClure, Ph.D.

Public Health

Assistant Professor

University of North Carolina-

Chapel Hill

Gordon McCurry, Ph.D.

Earth Sciences Principal

McCurry Hydrology LLC

Allison McDaniel, M.A./M.S.

Biology Educator Mathnasium

Sharon McDonough-Means, M.D.

Medicine/Medical Research

Alan McGillivray, M.A./M.S.

Architecture Designer

Tulane University

William McGrath, M.A./M.S.

Engineering

Karla McNamara, Dr. P.H. Medicine/Medical Research

Carol McRae, Ph.D. Social Sciences

Jonathan Memmert, M.A./M.S.

Health Admin

Javier Mendez, M.A./M.S.

Biology

James Mentele, M.A./M.S.

Physical Science

Senior Research Fellow

Institute of Health & Business Insights, Central Michigan

University

Catherine Meyer, M.A./M.S.

Social Sciences

Kathleen Mezoff, M.D.

Medicine/Medical Research

Robert Michaelson, Ph.D. Pascal Molineaux, M.A./M.S. Melanie Mouzoon, M.D. Medicine/Medical Research Chemistry Agriculture Master of Professional Science in Doctor Charles Michel, M.B.A. International Agriculture and Kelsey-Seybold Clinic Engineering Development Stephen Mudrick, Ph.D. University professor (retired) Gaia Mika, Ph.D. **Environmental Science** Social Sciences James R Monroe, M.A./M.S. **Emeritus Professor** Earth Sciences Department of Soil, Environmental Jack Milton, Ph.D. & Atmospheric Sci, University of **Mathematics** Phil Monroe, M.D. Missouri Columbia Medicine/Medical Research Robert Miner, D.D.S. William Mueller, M.A./M.S. Education Todd Monson, Ph.D. **Environmental Science** Clinical Profesor Physical Science **Director Emeritus** Columbia University College of Lake Michigan Bird Observatory Dental Medicine Maria Montag, B.A./B.S. Engineering Eric Muller, D.V.M. Anuruddh Misra, M.D. Medicine/Medical Research Medicine/Medical Research Elizabeth Moore, M.A./M.S. Physician Engineering Michael Mulligan, M.A./M.S. ShoulderMD **Physicist** Engineering **NIST** Service Engineer James Mitchell, Ph.D. Electronic Drives & Controls Earth Sciences William Moore, B.A./B.S. Professor emeritus Life Science Lynn Murrell, D.V.M. Rutgers university Medicine/Medical Research Henry Morgen, M.A./M.S. Andrew Mittelman, M.A./M.S. Engineering Tracy Musgrove, M.D. candidate **Ecology Environmental Science** Douglas Morrison, Ph.D. **Graduate Student** Suzanne Mittenthal, Ph.D. **Ecology** Texas Tech University **Social Sciences** Founder Doctor Florida Keys Marine Conservation Richard Nadler, M.A./M.S. The Johns Hopkins U., Indiana Fund Education University-Purdue District Science Coordinator Lawrence Moss, Ph.D. University/Indianapolis, IT Palm Beach County School **Mathematics** District Jamie Moffa, Ph.D. Candidate Professor Neuroscience Indiana University, Bloomington Jacob Naeb, M.A./M.S.

D..... M.-CCH M. A. /M.C.

Bryan Moffitt, M.A./M.S. Engineering

Laura Mojonnier, Ph.D.

Biology Senior lecturer

Senior lecturer Indiana university Laurence A. G. Moss, Ph.D. Social Sciences

Doctor

International Amenity Migration

History/Philosophy of Science

Medicine/Medical Research

Jean Naples, Post doc

Carroll Nast, B.A./B.S.

Jim Neal, M.A./M.S.

Engineering

Biology

Centre

Frances Mott, D.V.M. Medicine/Medical Research Ray Neff, M.A./M.S.
Sustainable Community

Development

Communications Coordinator

Capella Market

Linda Negele, Ph.D. Computer Science

Linden Nelson, Ph.D. Social Sciences

Professor emeritus of psychology California Polytechnic State University, San Luis Obispo

Gerald Newsom, Ph.D.

Physical Science Professor Emeritus Ohio State University

David Nichols, Ph.D.

Life Science

Nathan Nielsen, M.D. Medicine/Medical Research

Associate Professor

UNM

Michele Nihipali, M.P.H.

Public Health

David Nofziger, Ph.D.

Agriculture

Emeritus Regents Professor Oklahoma State University

Sharon A Nolting, M.A./M.S.

Social Sciences

Gregg Oelker, M.A./M.S. Environmental Science Manager of Water Quality

Suez

Dante Ohara, Post doc

Engineering

Materials Engineer

US Naval Research Laboratory

Mary Olson, B.A./B.S.

Biology

Director / Founder

Gender and Radiation Impact

Project

Michael Orleski, Ph.D.

Physical Science

Assoc. Professor of Physics Misericordia University

James Orr, Ph.D. Social Sciences

Thomas Ostwald, PhD

Neurobiology

Fred Oswald, M.A./M.S.

Engineering Mechanical Engr. Retired from NASA

Deborah Otto Sunderman, Ph.D.

Social Sciences

Urmila Padmanabhan, Ph.D.

candidate

Physical Science

Shriya Pai, Ph.D. Physical Science

Consultant

Boston Consulting Group

Paul Palla, B.A./B.S.

Engineering

Electronics Engineer US Army Civilian

Erdman Palmore, Ph.D.

Social Sciences

Professor

Duke University

Sharon Paltin, M.D.

Medicine/Medical Research

M.D., CMO, FAAFP

Long Valley Health Center

Jenna Parker, Ph.D.

Ecology

Deborah Parker, M.A./M.S.

Computer Science

George Pate, Ph.D. Social Sciences Associate Professor Capella University

Charles Patterson, D.V.M. Medicine/Medical Research

Lyn Pegg, Ph.D. Education

Janine Perlman, Ph.D.

Biology

Researcher/consultant

Wildlife Nutrition Consulting

Robert Petersen, M.D.

Medicine/Medical Research

Associate Professor

Harvard, Boston Children's

Hospital

Alan Peterson, M.D.

Medicine/Medical Research

Robert Petty, Post doc

Chemistry

(Retired) Manager, Marine Science

Institute Analytical Lab

University of California, Santa

Barbara (Retired)

Christopher Pitt, B.A./B.S.

Engineering

S.E.

ASCE

Avani Pisapati, M.A./M.S.

Biology

John Placer, Ph.D.

Computer Science

Emeritus Professor of Electrical

Engineering and Computer

Science

Northern Arizona University

Deborah Polk, Ph.D. Social Sciences

Visiting Associate Professor University of Pittsburgh

Stephen Pollaine, Ph.D.

Physical Science

Doctor LLNL

Jack Polonka, Ph.D.

Chemistry

Al Poplawsky, Ph.D.

Biology

Research Associate University of Idaho

Kenneth Poppleton, B.A./B.S.

Engineering

Staff Software Engineer

GE HealthCare

James Posakony, Ph.D.

Biology

Distinguished Professor Emeritus University of California San Diego

Andrew Poulos, M.D.

Medicine/Medical Research

Lou Priem, M.D.

Medicine/Medical Research

Jean Rabovsky, Ph.D.

Public Health

Julia Radwany, M.D.

Medicine/Medical Research

Hal Rager, M.A./M.S.

Social Sciences

Maher Rahou, M.A./M.S.

Engineering

Operations Planning Executive

Katakit

James Rankin, M.A./M.S.

candidate

Environmental Science Library Technician Oregon State University Paul Ranney, M.A./M.S.

Social Sciences

Master

Oracle 2 Mountain

Randy k Rannow, Ph.D.

Physical Science

David Rasmussen, M.A./M.S.

Social Sciences

James Rauner, Ph.D. candidate History/Philosophy of Science

DeAcon

Diocese of Kalamazoo, MI.

Maria Reay, M.A./M.S.

Life Science

Robert Reed, M.A./M.S.

Engineering

Adam Reeves, Ph.D.

Life Science

Kenneth Reiszner, Ph.D.

Chemistry
President
REAL, Inc.

John W Renfrew, Post doc

Life Science

Professor Emeritus

Northern Michigan University

Julian Revuelta, B.A./B.S.

Engineering

Principle Engineer

Arm

Bruce Richman, Post doc

Physical Science Principal Scientist

Picarro

Richard Riggs, B.A./B.S.

Engineering

Senior Member of Technical Staff

AT&T Submarine Systems

Susan Righi, M.D.

Medicine/Medical Research

Juanita Rinas, Ph.D. Social Sciences

Kathleen Riordan, M.A./M.S.

Economics

Lisa Roche, Ph.D. Public Health

Anthony Rosner, Ph.D. Medicine/Medical Research

Research Director

University of Western States

John Rossi, Ph.D.

History/Philosophy of Science

Associate Professor Penn State, Erie

Arnold Rots, Ph.D.

Physical Science

Patricia Rowell, Ph.D.

Medicine/Medical Research

Jean Roy, M.A./M.S. Computer Science

Leonard Rubin, Ph.D.

Engineering
Device Scientist
Axcelis Technologies

John Ruhl, M.A./M.S.

Earth Sciences

Research Scientist (retired)

NJDEP (retired)

Sam Rushforth, Ph.D.

Biology

Dean Emeritus

Utah Valley University

William Russell, Ph.D.

Engineering

Director of Engineering

Rutgers University

Dave Ruud, M.D.

Medicine/Medical Research

Roger Sabbadini, Ph.D. Stephen Scanlan, Ph.D. Judy Schultz, M.A./M.S. Social Sciences Public Health **Biology Emeritus Professor** Professor of Sociology Laura Schulz, Ph.D. San Diego State University Ohio University Social Sciences DeeAnn Saber, M.D. Timothy Schacht, D.V.M. Amy Schulz, B.A./B.S. Public Health Medicine/Medical Research Medicine/Medical Research **NMD** Andrea Schauer, M.D. RN Transformational Medicine Medicine/Medical Research PSR WI Oren Sachs, M.A./M.S. John Schellenger, Ph.D. Charles Schwartz, Ph.D. **Biology** Social Sciences Physical Science Shaina Sadai, Ph.D. Professor of Physics, Emeritus Jen Schellman, M.A./M.S. Earth Sciences University of California, Berkeley **Environmental Science** Fellow Lawrence Schwartz, Ph.D. Union of Concerned Scientists Alan Schenck, B.A./B.S. Social Sciences MA Engineering Marlene Schwarz, Ph.D. Nancy Sadowsky, M.A./M.S. Linda S Schermer, M.P.H. Engineering Life Science Public Health James Scoville, B.A./B.S. Daniel Safer, Ph.D. Stephen Schiff, M.A./M.S. Engineering **Biology** Physical Science Craig Seltenrich, M.A./M.S. Ronald Saff, M.D. Linda A Schmalstieg, M.D. **Ecology** Medicine/Medical Research Medicine/Medical Research Physician Phyllis Senter, M.D. Tallahassee Memorial Hospital Laura Schmitt Olabisi, Ph.D. Medicine/Medical Research **Ecology** Eli Sanchez, Ph.D. Professor Christine Sepulveda, M.A./M.S. Engineering Michigan State University **Biology** Post-doctoral Research Fellow **Professor** Massachusetts Institute of Susan Schneider, Ph.D. **LACCD** Technology Life Science Adjunct Associate Professor Andrew Serafin, M.A./M.S. Ivar Sanders, B.A./B.S. Western Michigan University Engineering Engineering **Emeritus** Jessica Schnell, Post doc University of Guelph Robert Sanford, Ph.D. **Biology Ecology** Director of Education Michael Sevener, M.A./M.S. Retired professor Black Rock Forest Engineering NAU William Schoene, B.A./B.S. Gerald Sgro, Dr. P.H. Peter Santogde, M.D. Engineering **Biology** Medicine/Medical Research Doctor Mark Schonbeck, Ph.D. Phil Shephard, M.A./M.S. Marshfield Clinic **Biology** Engineering Angelina Saucedo, M.A./M.S. Jason Schreiner, M.A/M.S. Gregory Shrader, Ph.D.

Social Sciences

Social Sciences

Social Sciences

Alexis Shusterman, Ph.D. Mary Sohn, Ph.D. Dana Stewart, M.A./M.S. **Physical Science** Chemistry Education Lecturer **Professor Emeritus** Founder, Managing Director University of California, Berkeley Florida Institute of Technology Alliance BioConversions Consulting (ABCC) Bruce Sielaff, Ph.D. Raenell Soller, Ph.D. Medicine/Medical Research Sarah Stewart, Ph.D. **Environmental Science** Admin Social Sciences Selena Sifontes, M.P.H. Georgia Tech Education Lynn Stiglich, B.A./B.S. Richard Solomon, Ph.D. Health Educator Engineering FIU Social Sciences Marketing engineer **UW- Madison** Dan Silver, M.D. Virginia Soules, M.D. Medicine/Medical Research Medicine/Medical Research Paul Stokes, M.A./M.S. Engineering Timothy Simmons MD, M.D. Margaret Sowerwine, M.D. Staff Member, Sandia National Medicine/Medical Research Medicine/Medical Research Labs, Department Manager Progressive Democrats of America Michael Simon, M.A./M.S. Dylan Spaulding, Ph.D. University of New Mexico **Biology** Physical Science Senior Scientist Ryan Storey, D.V.M. William Simpson, M.D. **Union of Concerned Scientists** Medicine/Medical Research Medicine/Medical Research DVM **Professor Emeritus of Geriatrics** Michael Spilde, M.A./M.S. Cornell 1999 Medical University of South **Earth Sciences** Carolina Research Scientist 3 William Stueve, M.D. University of New Mexico Medicine/Medical Research Catherine Sims, M.D. Physician Medicine/Medical Research Alan Spool, Ph.D. CenterWell Chemistry Randle Sink, M.A./M.S. Peter Su, M.A./M.S. Engineering Deborah St Julien, M.A./M.S. Engineering Electrical engineer Medicine/Medical Research Systems Architect **EEAutoCalc** George Staff, Ph.D. Ginkgo Bioworks Linda and Dan Sizemore and **Environmental Science** Mary Suagee-Beauduy, M.P.H. Drennan, Ph.D. Professor/retired Public Health Social Sciences Austin Community College Public Health Social Worker Indian Health Service, retired Michael Skinner, Ph.D. Leigh stamets, Ph.D. Engineering

Tangi Summers, M.A./M.S.

Biology

Adjunct Faculty

University of South Dakota

Daniel Swanson, Ph.D. candidate

Engineering

Research Engineer IDEAS, LLC

Chemistry **CEO**

Gomberg MPS

Michael Smith, Ph.D.

Chemistry

Margaret Snowden, M.D. Medicine/Medical Research Susan Starr, M.A./M.S. **Biology**

Richard Stein, Ph.D.

Medicine/Medical Research

Palmer Steward, Ph.D.

Engineering

Ruth Swenson, M.A./M.S. Linda Thompsen, M.A./M.S. Maria Velasco-Ferrari, M.D. Public Health Education Medicine/Medical Research Bruce Switzer, Ph.D. Edward Thornton, Post doc Yaamini Venkataraman, Ph.D. **Environmental Science** Chemistry **Biology** Professor Postdoctoral Fellow Daniel Szyld, Ph.D. University of Pennsylvania Woods Hole Oceanographic **Mathematics** Institution Professor Maury Tigner, Ph.D. Temple University Physical Science Sara Via, Post doc Professor **Biology** Eugene Takahashi, Ph.D. Cornell **Professor** Public Health University of Maryland Sharon Tkacz, Ph.D. Hiedi Tan. M.D. Social Sciences John Vickery, M.A./M.S. Medicine/Medical Research Associate professor **Ecology** Kent State University Donald Tanis, M.D. Jessica Walcott, Ph.D. Medicine/Medical Research Kristin Toscano, M.A./M.S. Life Science MD **Biology Adjunct Professor** Loyola University Medical Center **Bucks County Community College** Laurie Towne, M.D. James Taylor, Ph.D. Medicine/Medical Research Henry Walker, Ph.D. Engineering Computer Science **Professor** Carolyn Treadway, M.A./M.S. **Professor Emeritus of Computer** UNB Social Work Science and Mathematics Grinnell College Mario Troiani, M.A./M.S. Tanya Taylor, Post doc **Biology** Engineering Greg Walker, Ph.D. VP Engineering, retired **Biology** Michael Tenenbaum, M.A./M.S. VS2 Inc. Professor emeritus candidate University of California **Ecology** Molly Troup, M.A./M.S. **Environmental Science** Jessica Walker, Ph.D. Burton Thelander, M.A./M.S. Social Sciences Nursing Susan Udin, Ph.D. Associate Professor RN **Biology** Northeast College of Health Joint Commission Barbara Van Dyken, M.A./M.S. Sciences Pamela Thinesen, M.A./M.S. Education James Walker, B.A./B.S. Professor **Biology** Engineering FTU Faculty Biology Grossmont College Century College, White Bear Lake, Todd Walker, D.D.S. Elisabeth Julie Vargo, Post doc MN Medicine/Medical Research Public Health Brian Thomas, Ph.D. Steven Wallace, M.A./M.S. Yury Varshavsky, M.A./M.S. Physical Science **Earth Sciences**

Physical Science

Environmental Science

Analyst

RPI

Professor

Washburn University

S. Thomas Bond, Ph.D.

Social Sciences

William Vaughan, Dr. P.H.

John Walter, M.D.

Medicine/Medical Research

Museum Associate

University of Colorado Museum

Edward Walworth, M.D. Medicine/Medical Research

Peter Warner, M.A./M.S. Ecology

Paul Warnicke, M.B.A.
Computer Science
Quality Team Lead
Union of Concerned Scientists

Alicie Warren, Ph.D.

Biology

Karen Waters, M.A./M.S.

Other

Technical Reference Librarian

Illinois department of

transportation

Vivian Wauters, Ph.D.

Agriculture Project scientist

University of California Ag and

Natural Resources

Barbara WE, M.A./M.S. Medicine/Medical Research

Dk Weamer, Ph.D. candidate Education

Randall Webb, B.A./B.S.

Engineering

Mary Weeden, Ph.D.

Social Work

Deepthi Weerasinghe, Ph.D.

Chemistry

Marie Weinstein, Ph.D.

Social Sciences

Edmund Weisberg, M.A./M.S.

Other

Senior Science Writer Johns Hopkins University

Joel Weisberg, Ph.D. Physical Science

Professor

Carleton College

George Weissmann, Ph.D.

Physical Science Professor

ETH

Russell Weisz, M.A./M.S. Computer Science

Kathleen Welch, Ph.D.

Public Health

Professor of Global Health University of New England

Ryan Welle, M.A./M.S.

Mathematics

Evaluation Specialist University of Colorado

Joseph Wenzel, M.A./M.S.

Education

Christopher Wenzel, Ph.D.

candidate Ecology

Professor-Biology

Eastern Wyoming College

Brenda Westhorp, M.A./M.S.

Engineering

Karen Westover, M.A./M.S.

Biology

John Wheeler, B.A./B.S.

Engineering

Network engineer staff

The Johns Hopkins University

Patricia Whelehan, Ph.D.

Social Sciences Proferssor Emerita SUNY Potsdam

Nick White, Ph.D. Physical Science

Norman Whitley, Ph.D.

Engineering Emeritus

University of New Orleans

Andrea Whitson, M.A./M.S.

Life Science Clinical dietitian Oconnor Hospital

Catherine Williams, M.A./M.S.

Biology

William Williams, Ph.D.

Ecology

Professor emeritus

St. Mary's College of Maryland

Marian Wineman, M.A./M.S.

Engineering President

WR Consulting, Inc.

Bret Winkler, B.A./B.S.

Engineering

Victor Wittmann, B.A./B.S.

Engineering Vice President

Illuminating Engineering Society

(IES)

Marissa Wolfheart, B.A./B.S.

Environmental Science

Margo Wolfson, M.A./M.S.

Biology Professor

Brookdale Community college

Debra Wright, M.A./M.S.

Biology

Fred Wuertele, M.B.A.

Engineering Product Specialist ACI-PA LLC

Emily Yeh, Ph.D. Social Sciences Professor

TOICSSOI

University of Colorado

Roger Yelle, Ph.D. Planetary Science

Professor

University of Arizona

David Yelton, Ph.D. Life Science

Yonit Yogev, M.A./M.S. Environmental Science

Mark Yuschak, M.A./M.S. Environmental Science Adjunct Professor RVCC

Elizabeth Yuster, M.A./M.S. Environmental Science Professor

Professor EPA

Greg Zahradnik, M.A./M.S. Engineering

Leslie Zebrowitz, Ph.D. Social Sciences

Professor of Psychology, emerita Brandeis. University

Xuehua Zhang, Post doc Environmental Science Senior researcher Independent Scholar

Eric Zimdars, M.A./M.S. Engineering Water Quality Engineer Federal

Martha Zúñiga, Ph.D Biology Professor University of California, Santa Cruz

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