



Radioactive Waste: Growing Threats, Emerging Solutions.

July 24, 2024

Symposium
at UC San Diego

Design & Innovation Building



Margaret

Leinen

Vice Chancellor/Director

Scripps Institution of

Oceanography, UC San Diego

SamuelLawrenceFoundation.org



As stewards of the Earth's largest and most critical ecosystem, we have an obligation to prevent the contamination of our oceans by nuclear waste. This symposium is a crucial step toward understanding and addressing the complex challenges we face in safeguarding our marine environments."



Welcome!



Welcome to the Symposium on Radioactive Waste: Growing Threats, Emerging Solutions.

We are delighted to have you with us today at the UC San Diego Design & Innovation Building. This event marks a significant gathering of minds dedicated to tackling one of the most pressing environmental issues of our time. Convened by the Samuel Lawrence Foundation in collaboration with the Scripps Institution of Oceanography, our goal is to foster meaningful dialogue, share a groundbreaking policy initiative, gain a deeper understanding of radioactive waste's impact on our oceans and health, and discuss solutions for safe storage and better monitoring of radioactive waste at SONGS.

The Samuel Lawrence Foundation

The Samuel Lawrence Foundation strives to promote human interaction and encourage broader community access to science, education, and the arts.

Founded in 2010, SLF fosters community engagement and participation in local and global issues. We bring attention to the catastrophic situation of 3.6 million pounds of nuclear waste buried at the San Onofre State Beach.

Bart Ziegler, Co-Founder and President of the Samuel Lawrence Foundation, holds a PhD in community and environmental medicine from UC Irvine. He has a diverse background, including roles as an investment company builder, expert toxicologist, chemist for the EPA, and neuroscientist at UC San Diego. His leadership in the foundation reflects his commitment to environmental stewardship and community health. Bart also serves on the advisory board of Learning Equality, enhancing education access globally through technology. His extensive experience informs the foundation's innovative approach to addressing environmental problems.



Bart

Ziegler

Co-Founder & President
Samuel Lawrence Foundation

**“ I am thrilled
about this symposium—
we hope it will lead to
increased awareness
and positive outcomes
for our safety and
security, now and for
generations to come.”**

- Bart Ziegler

Welcome!



Meet Our Master of Ceremonies

Our Master of Ceremonies for the day is Alison St John Ingles, Retired North County Bureau Chief for KPBS, Public Broadcasting for San Diego. Alison's distinguished career in journalism, including significant coverage of the San Onofre Nuclear Generating Station (SONGS), has made her a respected voice in the community. Her insightful reporting and commitment to public service ensure that our discussions today will be both engaging and informative.



Alison

St John Ingles

*Retired, North County
Bureau Chief
KPBS, Public Broadcasting
for San Diego*

“As a former journalist I know how hard it is to keep covering an issue when little seems to change from year to year. But we have to keep talking about the radioactive waste stored on the beach at San Onofre, because forgetting it is there is a recipe for disaster. awareness and positive outcomes for our safety and security, now and for generations to come.”

- Alison St John Ingles

Special Thanks!

We extend our heartfelt gratitude to our SLF Community, esteemed partners, sponsors, the Scripps Institution of Oceanography, UCSD, and everyone who has contributed to making this event possible. Special thanks to our distinguished speakers for sharing their expertise, the organizers for their meticulous planning, and the volunteers for their unwavering support. We also appreciate the invaluable feedback and support from the SLF community during the registration process.

Overview

Coffee & Mingle

9:00 a.m. - 10:00 a.m.

Morning Session

10 a.m. - 12:15 p.m.

Opening Remarks:

- Margaret Leinen

Keynote Panel: Opening Dialogue and Announcements

- Larry Agran
- Admiral Len Hering
- Stephanie Cooke, *Moderating*

Perspective from the Former Head of The Nuclear Regulatory Commission

- Greg Jaczko (11:00 - 11:15)

Panel 1: Clear and Present Dangers of Radiation: Environmental, Health, and Economic Hazards (11:15-12:15)

- Mark Z. Jacobson
- Deanna Polk
- Leona Morgan
- Alison St. John, *Moderating*

Lunch Session

12:15 p.m. - 1:15 p.m.

Catered Lunch Provided

Panel 2: Virtual Lunch Panel: Why Are We Worried? (12:45-1:15)

- Paul Dorfman
- Gordon Edwards
- Lance Gould, *Moderating*

Afternoon Session

1:15 p.m. - 4:30 p.m.

Panel 3: SONGS: Symptomatic of a Nationwide Nuclear Waste Crisis (1:15-2:15)

- Admiral Len Hering
- Gary Headrick
- Paul Gunter
- Thomas Bass, *Moderating*

Virtual Presentation:

- Amory Lovins (2:15-2:30)

Panel 4: Coastal Dynamics of Nuclear Waste (2:30-3:30)

- James Day
- Jeff Severinghaus
- Bob Richmond
- Kim McCoy
- Thomas Bass, *Moderating*

Panel 5: Ensuring Effective Monitoring and Policy: What Can Be Done? (3:30-4:30)

- Roger Johnson
- John Orcutt
- Stephanie Cooke
- Rita Macdonald, *Moderating*

Closing & Reception

4:30 p.m. - 6:30 p.m.

Q&A and Wrap-up

- Alison St. John, *Master of Ceremony*
- Bart Ziegler

Closing Remarks

- Congressman Mike Levin

Patio Reception

Coffee & Mingle

9 a.m. - 10 a.m.

► Coffee Hour

Start your day by grabbing a cup of coffee and engaging in conversation with fellow attendees. This is a perfect time to network, exchange ideas, and prepare for the day's insightful discussions. The symposium will begin promptly at 10:00 a.m. with opening remarks. Please ensure your phones are turned off and parking is taken care of. We encourage you to jot down your questions as each session will include a dedicated Q&A segment. We look forward to a day of meaningful dialogue and collaboration. Thank you for your dedication to this vital cause.

Your participation is crucial. It reflects a collective commitment to understanding and addressing the complexities of this issue. We hope today's sessions provide you with valuable insights, inspire new ideas, and encourage collaborative efforts towards a safer and more sustainable future.

Morning Session

10 a.m. - 11:15 a.m.

► Opening Remarks:

Margaret Leinen was appointed the eleventh Director of Scripps Institution of Oceanography at UC San Diego in July 2013. She also serves as UC San Diego's Vice Chancellor for Marine Sciences and Dean of the School of Marine Sciences. She joined UC San Diego in October 2013.

Leinen is an award-winning oceanographer and distinguished national and international leader in ocean science, global climate and environmental issues. Her research in paleo-oceanography and paleo-climatology focuses on ocean sediments and their relationship to global biogeochemical cycles and the history of Earth's ocean and climate.

Leinen leads UC San Diego's ocean, earth, atmospheric and climate science research and education programs at Scripps Institution of Oceanography, the foremost environmental research institution addressing the pressing environmental problems facing our planet.



**Margaret
Leinen**

Vice Chancellor/Director
**Scripps Institution of
Oceanography, UC San Diego**

Morning Session

➔ Keynote Panel: Opening Dialogue & Announcements

This opening panel will introduce the critical challenges of nuclear waste, focusing on the latest policy and regulatory changes that impact safety and storage. Moderated by Stephanie Cooke, the discussion will highlight the increasing threats posed by loosened regulations and expanded industry practices, particularly to coastal communities in California. A key feature will be the announcement of a groundbreaking policy initiative to develop a State of California plan for safer onsite storage and disposition of radioactive waste, aiming to set a model for nationwide reactor communities. This initiative seeks to address the 3.6 million pounds of highly radioactive waste at the San Onofre Nuclear Generating Station (SONGS), ensuring enhanced safety and security for current and future generations.



**Larry
Agran**
Vice Mayor
City of Irvine



**Rear Admiral
Len Hering Sr.**
Retired
U.S. Navy



**Stephanie
Cooke**
Moderating
Journalist, Writer
New York Times,
Associated Press, Energy
Intelligence, Nuclear
Intelligence Weekly

“ It's time for a State strategy — this begins with preparation of a legislatively-mandated State plan — to safeguard Californians from 3.6 million pounds of stored, highly radioactive waste at San Onofre.”

- Larry Agran

Morning Session

➔ Perspective from the Former Head of The Nuclear Regulatory Commission

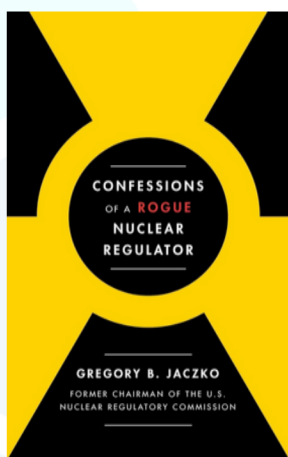
The Honorable Gregory B. Jaczko was designated Chairman of the U.S. Nuclear Regulatory Commission by President Barack Obama on May 13, 2009. He was first sworn in as a Commissioner on Jan. 21, 2005. Dr. Jaczko resigned on July 9, 2012.

Throughout his tenure on the Commission, Dr. Jaczko focused on the NRC being a decisive safety regulator with the confidence of the public. He worked to have the agency clearly communicate with the public and its licensees. Dr. Jaczko focused on the safety of existing nuclear reactors and radioactive materials, implementing a predictable safety review process for license applications, ensuring the agency conducts thorough environmental reviews, and promoting strong enforcement and accountability.



**Gregory
Jaczko**

Former Chairman
Nuclear Regulatory
Commission



Confessions of a Rogue Nuclear Regulator

by Gregory B. Jaczko

In *Confessions of a Rogue Nuclear Regulator*, Gregory Jaczko, former Chairman of the U.S. Nuclear Regulatory Commission (NRC), provides a startling insider's look at the nuclear energy industry's regulatory failures. Appointed by President Obama and serving from 2009 to 2012, Jaczko reveals the NRC's struggles against industry influence and political inertia. His firsthand experiences, including the response to the Fukushima disaster, underscore the urgent need for stronger safety measures and transparent regulation. This book is both a personal narrative and a critical exposé on the complexities of nuclear power regulation.



The danger from climate change no longer outweighs the risks of nuclear accidents. I oversaw the U.S. nuclear power industry. Now I think it should be banned.

- Gregory Jaczko

Morning Session

▶ Panel 1: Clear and Present Dangers of Radiation: Environmental, Health, and Economic Hazards

This panel will explore the multifaceted dangers posed by radiation, addressing environmental, health, and economic impacts. Experts will discuss the current risks of radioactivity, examining the effects on ecosystems, human health, and local economies. The session aims to provide a comprehensive understanding of the ongoing hazards and the urgent need for effective management and mitigation strategies.



Cindy

Folkers

Radiation and Hazard
Health Specialist

Beyond Nuclear



Mark

Z. Jaconson

Professor of Civil and
Environmental Engineering
Director, Atmosphere
Energy Program
Stanford University



Leona

Morgan

Indigenous Organizer,
Co-Founder
**Haul No!; Nuclear Issues
Study Group**

“ *We now deal with several generations having been exposed and a legacy of contamination and re-exposure in an ever-growing sea of radiological pollution, as nuclear technology persists.* ”

- Cindy Folkers

Lunch Session

12:15 p.m. - 1:15 p.m.

➡ Lunch

Grab lunch and hurry back for this amazing virtual panel!

➡ Panel 2: Virtual Panel: Addressing Global Nuclear Waste Strategies

During the lunch break, join us for a virtual panel where experts will discuss global strategies for managing nuclear waste. This session will focus on international best practices, innovative policies, and technological advancements in radioactive waste management. The speakers will share insights from various countries, offering a comparative analysis to highlight successful approaches and potential lessons for the U.S. Attendees will gain a broader perspective on how different regions tackle the complexities of nuclear waste, fostering ideas for future improvements and collaborations.



**Gordon
Edwards**
Mathematician, Physicist
**Leading Expert on
Nuclear Issues in Canada**



**Paul
Dorfman**
Chair of NuclearConsult
**Visiting Fellow, Science
Policy Research Unit,
Sussex Energy Group,
University of Sussex**



**Lance
Gould**
Moderating
Founder & CEO; Journalist,
Brooklyn Story Lab

Afternoon Session

12:15 p.m. - 4:30 p.m.

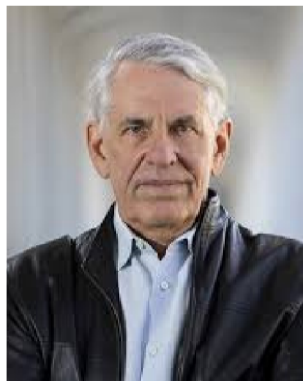
Panel 3: SONGS: Symptomatic of a Nationwide Nuclear Waste Crisis

This panel will delve into the specific issues surrounding the San Onofre Nuclear Generating Station (SONGS) and its broader implications for nuclear waste policy across the United States. Experts will discuss the systemic problems exemplified by SONGS, including regulatory failures, storage challenges, and the heightened risks posed to coastal communities. The session aims to highlight how the situation at SONGS reflects wider national issues, emphasizing the urgent need for comprehensive policy reform and effective waste management strategies.



Rear Admiral
Len Hering Sr.

Retired
U.S. Navy



Thomas
Bass

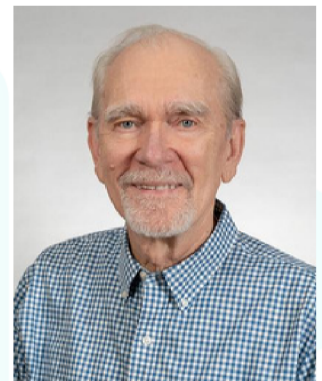
Moderating

American writer and professor in literature, journalism, and history; Professor of English and Journalism
University at Albany, State University of New York



Gary
Headrick

Founder
San Clemente Green, SONGS Community Leader



Paul
Gunter

Analyst and Activist
Energy Policy



It's stuck at [San Onofre] because there is no long-term repository for the waste across the entire country... Unfortunately, we're now dealing with, what I believe is, inadequate storage requirements."

- Rear Admiral Len Hering Sr.

Afternoon Session

Virtual Presentation: Amory Lovins

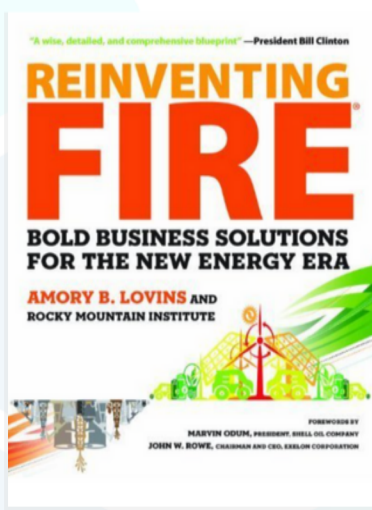
Amory Bloch Lovins is an American writer, physicist, and former chairman/chief scientist of the Rocky Mountain Institute. He has written on energy policy and related areas for four decades, and served on the US National Petroleum Council, an oil industry lobbying group, from 2011 to 2018.

Lovins has promoted energy efficiency, the use of renewable energy sources, and the generation of energy at or near the site where the energy is actually used. Lovins has also advocated a "negawatt revolution" arguing that utility customers don't want kilowatt-hours of electricity; they want energy services. In the 1990s, his work with Rocky Mountain Institute included the design of an ultra-efficient automobile, the Hypercar. He has provided expert testimony and published 31 books, including *Reinventing Fire*, *Winning the Oil Endgame*, *Small is Profitable*, *Brittle Power*, and *Natural Capitalism*.



**Amory
Lovins**

Co-Founder and
Chairman Emeritus
RMI



Reinventing Fire: Bold Business Solutions For The New Energy Era

by Amory Lovins

Imagine a world with clean, abundant energy for all. No climate change, oil spills, or dirty air. "Reinventing Fire" shows how the US can eliminate oil and coal by 2050 through business-driven, cost-effective solutions. This book offers practical strategies for transforming transportation, buildings, electricity, and manufacturing with efficient and renewable energy. It highlights huge savings and business opportunities in a sustainable future, appealing to those who prioritize national security, job creation, or environmental protection.

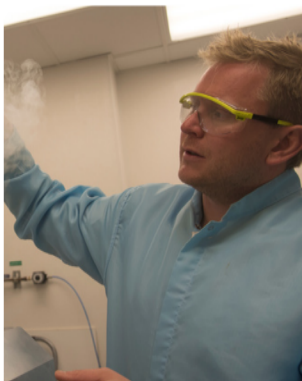
“Whenever you get a new administration that slashes regulations and boosts subsidies for nuclear industry its enthusiasm begets arrogance and sloppiness. Usually within a modest number of years, the industry leaves worse than when it started, with mishaps - both technical and commercial.”

- Amory Lovins

Afternoon Session

Panel 4: Coastal Dynamics of Nuclear Waste

This panel will explore the interactions between nuclear waste and coastal environments. Experts will discuss how coastal dynamics, such as erosion, sea-level rise, and storm surges, affect the storage and stability of nuclear waste sites. The session will also examine the responses of coastal ecosystems to contamination and the implications for long-term waste management. Attendees will gain insights into the unique challenges faced by coastal nuclear facilities and the strategies needed to mitigate environmental and health risks.



James
Day
Professor of Geosciences
Scripps Institution of
Oceanography, UC San
Diego



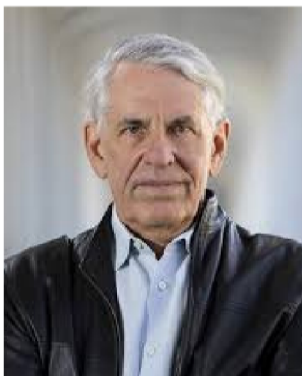
Kim
McCoy
Oceanographer, Author
Waves and Beaches



Robert
H. Richmond
Research Professor and
Director
Kewalo Marine
Laboratory, University of
Hawaii at Manoa



Jeff
Severinghaus
Professor of Geosciences
Scripps Institution of
Oceanography, UC San
Diego



Thomas
Bass
Moderating
American writer and professor in literature, journalism, and
history; Professor of English and Journalism
University at Albany, State University of New York

Afternoon Session

➡ Panel 5: Ensuring Safe Storage & Effective Monitoring

This panel will address the critical need for safe storage, robust monitoring and comprehensive policy in managing radioactive waste. Experts will discuss the importance of continuous oversight and the implementation of stringent regulations to safeguard public health and the environment. The session will highlight successful safe storage, monitoring strategies and policy frameworks from around the world, providing a roadmap for improving nuclear waste management practices in the U.S. Attendees will gain an understanding of the essential components required to develop and enforce effective monitoring and policy measures.



**Stephanie
Cooke**

Journalist, Writer
New York Times,
Associated Press, Energy
Intelligence, Nuclear
Intelligence Weekly



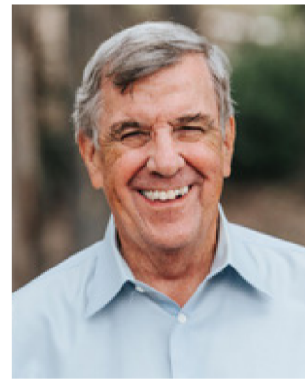
**Roger
Johnson**

Professor Emeritus
Faculty of Amherst
College, Tufts University,
and Ramapo College of
New Jersey



**Rita
Macdonald**

Moderating
COO
Samuel Lawrence
Foundation



**John
Orcutt**

Professor of Geophysics
Scripps Institution of
Oceanography, UC San Diego



Is ionizing radiation released from nuclear power plants contributing to cancer, the leading cause of death? Why is the government blocking cancer research near nuclear power plants? Whatever happened to the “Moonshot on Cancer?”

- Roger Johnson

Closing & Reception

4:30 p.m. - 6:30 p.m.

➡ Q&A and Wrap-up

Bart Ziegler from the Samuel Lawrence Foundation will facilitate an academic Q&A and wrap-up session. This segment is designed to provide attendees with the opportunity to engage deeply with the material presented throughout the symposium. Alison and Bart will direct and manage the discussion, ensuring that questions are addressed comprehensively by the experts. This session will serve to clarify complex issues, synthesize the key points discussed during the day, and encourage scholarly dialogue and critical thinking. Your active participation will help reinforce the symposium's objectives and contribute to ongoing research and policy development in radioactive waste management.



Alison

St John Ingles

Retired, North County Bureau Chief
KPBS, Public Broadcasting for San Diego



Bart

Ziegler

Co-Founder & President
Samuel Lawrence Foundation

Closing & Reception

➡ Closing Remarks

We are honored to close the day with Congressman Mike Levin, who has been a dedicated champion for the San Onofre Nuclear Generating Station (SONGS) issue. Congressman Levin will encapsulate the key insights and takeaways from today's symposium, emphasizing the importance of continued advocacy and policy development in radioactive waste management. He will reflect on the collaborative efforts discussed throughout the day, highlighting the need for ongoing commitment and action to achieve safer and more effective management of radioactive waste.



Congressman

Mike Levin

Representative, California

United States

➡ Patio Reception

Join us for a relaxing patio reception immediately following the closing remarks. Drinks will be provided as we unwind and reflect on the day's discussions. This is an excellent opportunity to network with fellow attendees, speakers, and experts in a more informal setting. The reception will start winding down around 6:30 p.m., so make sure to take advantage of this time to forge new connections and continue the conversation on the vital issues of radioactive waste management. We look forward to seeing you there!

Why Are You Attending?



Kathryn Brinton, *Advisor at SLF*

"The existential threat on our beach threatens the health and safety of children, marines, our precious coastal ecosystem, our economy and all who live here."

Bethann Chambers, *Community Member*

"My husband worked at SONGS for 27 years, and was a whistleblower. I am also concerned about long term spent nuclear fuel storage."

Joseph Gydosh, *Founder at Green Rush Science*

"Because our precious living Earth is our responsibility and only home, critical immediate collaborative action like this is our only hope for ours and its survival."

Laurie Bianchi, *Consultant at Marketing & Sponsorship Solutions*

"I have a number of clients and close associates that are deeply involved in SONGS and also nuclear energy. I would like to gain more insight as to how to bring the issues to clients and residents alike via communication initiatives."

Richard Hendlin, *Community Member*

"To stay educated with the latest reliable information and opinions on this critical policy issue which I've been involved with for over 40 years."

Rachel Drewelow, *Concerned Citizen*

"I am very concerned about radioactive waste and plans to expand nuclear power. There is so much ignorance and misinformation about it. I want to educate others about this issue."

Julie Boddy, *Advocate/Cultural historian from the Nuclear Free Takoma Park Project*

"I want to listen to it from Maryland, especially to share the suggestions that emerge. I am a downwinder from the new corner of Oregon who spent her childhood in the SF Bay area."

Nydia Grubbs, *High School Student, University City High School in San Diego*

"I would love to aid in such an important symposium! I am really passionate about the environment, especially what surrounds me in beautiful San Diego. I hope while I volunteer, I can learn more about the legislation and new information surrounding our ever-changing environment."





Thank You!

Thank you for being a part of today's symposium on Radioactive Waste: Growing Threats, Emerging Solutions. Your participation has been crucial in making this event a success. We hope the insights and connections made today inspire ongoing efforts to address radioactive waste challenges.

This symposium required significant time, effort, and resources and was offered free to the public. Your contributions are vital to continue our mission of environmental stewardship and public health. Please consider donating to support our ongoing work and future initiatives. Together, we can make a significant impact.



SamuelLawrenceFoundation.org