



The SURF Report

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Inaugural SURF-AEHS Partnership Effort a Success

In December 2016, SURF and the Association for Environmental Health & Sciences Foundation (AEHS) culminated months of discussion about how we could work together on matters of common interest. Those deliberations made it clear that both organizations share similar goals, visions, and even members. As a result, several opportunities benefiting both organizations were readily available.

The first collaboration occurred during the 2017 AEHS East Coast Conference in Amherst, MA from October 16-19, 2017. It was a smashing success for both organizations. SURF joined the conference as a partner by developing and leading two technical sessions, both of which were well attended and attracted as many as 60 attendees each. Our SURF members-only meeting immediately followed the technical sessions, along with the traditional SURF group dinner.

On a more poignant note, SURF lost a true friend when long-time member Mike Miller passed away in Spring 2017. Mike was a leader in both AEHS and SURF, having served many years on the

AEHS Advisory Board for the East Coast Conference as well as on the SURF Board of Trustees and SURF initiatives and committees. Mike has been memorialized by AEHS with the Michael Miller Student Paper and Poster Competition now named in his honor. SURF members used our group dinner as an opportunity to share memories of Mike and toast in his honor. Mike was a key member of the SURF Conference Alignment Working Group that brought about the partnership with AEHS; he deserves credit and recognition for his contribution not only to the SURF-AEHS partnership but for many of the successes of both organizations.

SURF will continue our partnership with AEHS at the 2018 AEHS West Coast Conference in San Diego, CA on March 19-22, 2018. Similar to the East Coast Conference, SURF has devel-

oped and will lead technical sessions featuring both SURF members and invited speakers. In addition, SURF will again have a booth, and the SURF spring membership meeting and traditional dinner are in the planning stages.

Further announcements about the 2018 AEHS West Coast Conference program, including registration details and the schedule of SURF activities will be communicated shortly.

Contributed by Paul Hadley



Paul Kostecki presented Mike Miller's sister Beth Coimbra with a plaque to recognize Mike's contributions. Photo Credit: AEHS Foundation 2017

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About SURF

The Sustainable Remediation Forum (SURF) promotes site assessment and remediation that protects human health and the environment while maximizing environmental, social, and economic benefits throughout the project life cycle by:

- Advancing the science and application of sustainable remediation
- Developing best practices
- Exchanging professional knowledge
- Providing education and outreach

About The SURF Report

This newsletter is published quarterly by the SURF Communications Committee to provide you with highlights of SURF's activities and opportunities and developments in the field of sustainable remediation.

Deadline for newsletter submissions is the 15th of March, June, September, and December for the following quarterly issue.

Contact the Newsletter Editor by email for submittal: Gerlinde Wolf, AECOM, newsletter@sustainableremediation.org

Submissions are subject to editing for space considerations.

Circulation: The newsletter is circulated to about 1,000 individuals directly and is posted online at www.sustainableremediation.org.

Address Changes: Please submit to the SURF Secretary at secretary@sustainableremediation.org.

The SURF website, www.sustainableremediation.org, is our primary resource for sharing the latest and greatest news about SURF and sustainable remediation. Our Online Resources page provides a one-stop shop for resources, tools, information, and documents. The Calendar shows remediation, sustainability, and related conferences, as well as deadlines for submitting abstracts. Suggestions for additions and improvements are welcome by using the Contact SURF form on the website or by emailing administrator@sustainableremediation.org.

SURF 2017 – Year in Review

2017 was a memorable year for SURF as we retrenched and started new and exciting initiatives. In addition, we are seeing a “changing of the guard” as many of the initial SURF leaders are transitioning out of management roles, but still staying involved, while others who are newer to SURF take over management responsibilities. It is interesting to see a fresh perspective from those who haven’t been involved with SURF for a long period of time.

Our newer initiatives this year (some began in 2016) include the following:

- Role of sustainable remediation and reuse in climate change and resiliency
- Communicating the value of sustainable remediation
- Database of green and sustainable remediation (GSR) approaches and/or products (forthcoming)

During our SURF meeting in Amherst, we seriously entertained updating the 2009 Sustainable Remediation White Paper — *Integrating Sustainable Principles, Practices, and Metrics Into Remediation Projects*. Many people consider this document the first serious treatise addressing sustainable remediation. Paul Favara volunteered to spearhead this effort, so expect to hear more about it in the near future.

The SURF Board of Directors recently decided that maintaining and expanding membership is critical to SURF. Therefore, we are implementing two concepts related to membership:

- 1) We are upgrading our web services to incorporate automated systems for managing memberships and

ensuring that members are sent email reminders about annual renewal.

- 2) We are offering free memberships to environmental regulators and other government employees involved in site development (i.e., brownfields coordinators). We believe that consultants and industry representatives will see extra value in participating in SURF if more regulators are involved and the free membership could enhance our outreach ability to regulators.

Most important, as we know, SURF is more than a non-profit organization. We represent a close-knit community of people who have built strong friendships over the years – truly an added benefit. Unfortunately, nothing brings a community together more than a loss, which we experienced this year with the passing of Mike Miller – a brilliant, vibrant sustainable remediation practitioner and innovator. An incredible moment occurred during our SURF post-meeting group dinner at Amherst. Mel Harclerode was making heartfelt remarks about Mike, her good friend, mentor, and colleague at CDM Smith, when Simple Minds’ “*Don’t You Forget About Me*” began playing in the background unplanned and unexpectedly – a heart-wrenching moment. Those lucky enough to have known and worked with Mike and experience his skillful, precise ability to convey his opinions, not only about sustainable remediation, but just about everything else in life, will miss him. As a closing, I am finishing my second term as President and will be passing the baton to a new President early in 2018. I want to thank SURF for letting me serve as its President for the past two years. It has been an invaluable experience.

*Contributed by John A. Simon,
2017 SURF President*



In 2017, SURF held meetings in Pasadena, CA (see photos to left and right) and Amherst, MA (see photo above)



A Members Perspective: Buddy Bealer

SURF partnered with the Association for Environmental Health and Sciences Foundation (AEHS) and held its first co-located meeting at the AEHS Conference at the University of Massachusetts in Amherst, MA on October 16-19, 2017. The conference and SURF meeting were a great success; the conference significantly increased in attendance and the SURF meeting drew in new attendees.

As a SURF member and a regular participant in the AEHS conferences, I found the partnership a great opportunity to attend my first SURF meeting in quite a bit of time! Like at many companies and agencies, travel budgets at my company have been cut and there is always pressure to keep travel at a minimum. For me, the partnership and co-located meetings allowed me to become active again in SURF. I attended the technical sessions, a workshop, and SURF membership meeting.

It appeared to me that the two “hot” issues at the conference were emerging contaminants and sustainable remediation, with two sessions and a workshop dedicated to sustainable remediation. I was able to participate in many different sessions and found the sustainable remediation sessions led by our SURF team to include great topics and presenters, which (in several cases) created some very interesting and passionate discussions.

I believe the partnership is a win-win for both AEHS and SURF. AEHS got the benefit of SURF members’ expertise, SURF-sponsored sessions, and a workshop (which were all well attended). And SURF got the opportunity to reach a larger audience to provide awareness and practical examples of how sustainable remediation is applicable and timely to the remediation challenges we face.

The AEHS conferences are near the top of my priority list of conferences to attend, and I routinely attend both (East Coast and West Coast) because they reach a large stakeholder audience (regulators and consultants). These gatherings have proven to be good conferences to share state-of-the-art science and processes because the attendees are often either practitioners or those who may benefit the most from incorporating sustainability into their programs and projects. A lot of



Buddy Bealer (second from right), Shell, participates in a panel discussion at SURF 28 in 2015. He is looking forward to reengaging with SURF as a result of our partnership with AEHS.

information on what is happening and trending in many states is also provided.

I look forward to attending future SURF-partnered AEHS conferences and getting double the benefit. I believe that the first partnership conference was a great success and that they will only continue to get better as we learn how we can improve the logistics of the event and reach an even larger audience.

The SURF leaders who developed this program did a great job and I would like to personally thank them as it was very beneficial for me. I would encourage SURF members to participate in these events and support this effort.

Contributed by Buddy Bealer

Get Social with SURF!

Do you have sustainable remediation news to share? We have several ways to spread your news... In addition to [SURF's website](#), you can find us on [Twitter](#) and [LinkedIn](#). SURF's Communications Committee also manages a LinkedIn group, which can be used to distribute information about case studies and project successes, ask questions, solicit feedback, and connect with fellow SURF members.

To join SURF's LinkedIn group, search for "Sustainable Remediation Forum" and look for the SURF logo. To make a news post on SURF's website, contact Jake Torrens at jtorrens@haleyaldrich.com.

SURF Technical Session Overview: Sustainability Considerations in Remediation and Restoration

SURF hosted two well attended technical sessions at the AEHS East Coast Conference. This session, co-chaired by Maile Smith and Gerlinde Wolf, featured talks that highlighted case studies, holistic thinking and programmatic sustainable remediation.

Paul Randall (USEPA, Cincinnati, OH) announced that the SEFA (Spreadsheets for Environmental Footprint Analysis) tool will be updated in 2018. This tool was developed by the EPA and consists of Excel workbooks set up as templates that are used to quantify the environmental footprint of a site remediation. The 2018 SEFA update will include the incorporation of emission factors, which were developed by the EPA using life-cycle modeling. Emission factors will be integrated for material production, transportation and on-site equipment, and analytical chemistry methods.

Gail Lipfert (Maine Department of Environmental Protection) discussed the importance of geospatial analysis in optimizing activities and decisions throughout the remediation project life cycle. To demonstrate, Gail presented a retrospective case study of how geospatial analysis would have optimized sediment sampling at a tidally influenced site. For guidance as to how to implement this method “from scratch,” she directed attendees to the work of the ITRC Geostatistics for Remediation Optimization (GRO) Team and its guidance on the topic.

Patrick Lyons (Weston & Sampson Engineers) presented a case study of the remediation of the former Bartlett Yard Bus Garage. The garage, located in the Roxbury neighborhood of Boston, had operated as a maintenance facility for the orange line subway and a bus garage for the transportation authority. Patrick highlighted the material reuse, creative

funding, and community involvement associated with the project. When complete, the redeveloped area will provide housing opportunities for low- and moderate-income residents, a creative district, public events plaza, public market, shops, and interactive arts.

Lindsay Burton (ExxonMobil Environmental Services Company and SURF Secretary) presented the steps her organization has taken toward integrating green and sustainable remediation principles at a programmatic level. To date, activities have involved a comparative analysis of existing green and sustainable remediation frameworks and guidelines; a series of pilot studies evaluating metrics; and the development of customized tools for planning, tracking, and assessing vulnerability and risk.

Sheri Adkins and Christopher Uhlenbruch (KY Department for Environmental Protection) presented the framework of a comprehensive research study designed to quantify soil background levels in urban areas that have accumulated pollutants from industrial sites. The regional urban background study was implemented with sample sets from one to two cities from each USEPA Region 4 state. The project is a result of funding and support from the EPA’s Office of Research and Development, EPA Region 4 offices, and EPA’s Nevada and

Georgia regional laboratories. As a result of this work, many more cities have been sampled and sampling events at new cities are planned. The data collected from this work are available and already being used with additional background data.

Paul Favara (CH2M) described the use of a subgrade biogeochemical reactor (SBGR) to highlight how using a “bottom up” approach can avoid environmental impact and save money. In this case, material was reused and sustainability was considered before selecting a technology. The use of the SBGR also demonstrated how life-cycle assessment (LCA) thinking can provide a wider lens to identify optimization opportunities. By understanding where burdens exist, they can be reduced.



Maile Smith was presented with a SURF Appreciation Award at the Fall 2017 SURF Membership Meeting for her ongoing hard work and dedication to SURF. Thank you Maile!

Board of Trustees Election 2018: Now Accepting Nominations

SURF is accepting nominations through January 5, 2018 for several Board positions (described below). Elections will be held in January 2018. Both nominator and nominee must be SURF members in good standing. (Please note that student members do not have voting privileges.) Self-nominations are permitted. The SURF Nominations Committee requests that you confirm with your nominee that they wish to be a candidate prior to submitting their name.

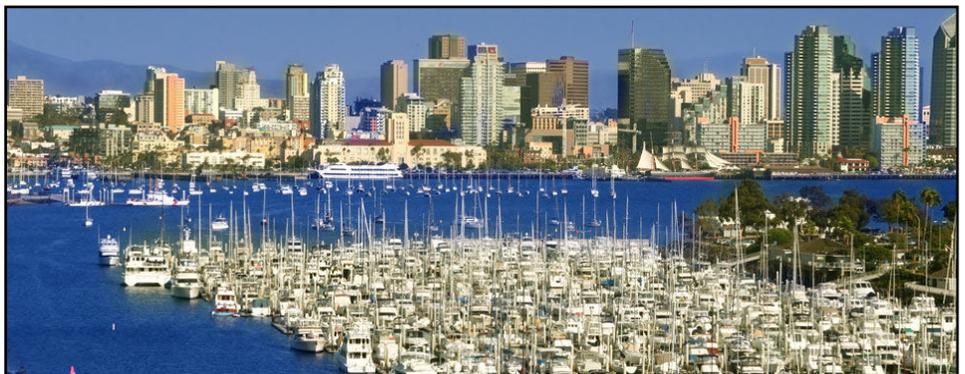
Nominations are being accepted for the President, Vice-President, Secretary, Treasurer, and two At-Large positions. The President, Vice-President, and Secretary positions have 1-year terms; the Treasurer and At-Large positions are 2-year terms.

[Access the Nominations page here.](#) You will be prompted to enter a SURF website login.

Only SURF members in good standing are eligible to participate in Board of Trustees nominations and elections. If you have not yet renewed your membership this year—or are new to the organization—we welcome you to take a few minutes to complete your 2018 membership application now. Memberships run from February 1 to January 31 annually. Please contact SURF's Secretary with any questions about membership classes or status, the renewal process, or company sponsorship.

Save the Date for SURF's Spring 2018 Meeting March 19-22, San Diego, California

SURF's Spring 2018 Meeting will be held in San Diego, California in partnership with the 28th AEHS Annual International Conference on Soil, Water, Energy, and Air
March 19-22, 2018



SURF Case Study Initiative Back in Action

After a short hiatus, SURF is ready to ride the waves of the Case Study Initiative (CSI) again! Over the last year, we have publicized the current cache of case studies on [LinkedIn](#) and [Twitter](#) – highlighting strategies to improve the sustainability of remediation projects – whether through dynamic stakeholder engagement, innovative financing mechanisms, or efficient technologies. We have reposted the template on our [website](#) and are seeking new additions. We saw some exciting project highlights at the recent [AEHS East Coast Conference](#) in Amherst, MA and look forward to reviewing the submittals.

We have also discussed the value of the case study portal and how it can best benefit you – our SURF members. The collection of case studies can open lines of communication within an organization or agency about sustainability; highlight real-world examples of applied sustainability; and support the business case for implementing sustainable remediation in your own organization.

SURF Technical Session Overview: Climate Change and Resilience Within Sustainable Remediation

SURF's inaugural conference at AEHS in Amherst was an ideal venue to discuss climate change and resilience within sustainable remediation since Massachusetts is a global leader in both. The session highlighted various State, Federal, and international efforts, all of which are informing SURF's newest technical initiative (TI).

Hurricane Harvey and Maria in Puerto Rico demonstrated the threats that climate change impacts can have on contaminated land, public health, and the environment. Thirteen Superfund sites in Houston were flooded. At one, EPA measured dioxin more than 2,300 times the level set to trigger a cleanup. Five weeks after Hurricane Maria, one in four Puerto Ricans lacked access to reliable clean water. EPA received reports that people were trying to access water from wells located at three Superfund sites.

Ann Lowery (MA Department of Environmental Protection Commissioner) introduced Governor Charlie Baker's Executive Order No. 569 "Establishing An Integrated Climate Change Strategy For The Commonwealth." The order required the state to "make new and existing efforts to



Barbara Maco led this SURF technical session. Photo Credit:

mitigate and reduce greenhouse gas emissions and build resilience, particularly in communities. Ann noted that Massachusetts is developing a Climate Change Clearinghouse, providing climate and geospatial data designed for cities and towns.

Thomas M. Potter (MA Department of Environmental Protection Bureau of Waste Site Cleanup) spoke on how the Bureau is beginning to address adaptation measures to ensure that existing and future cleanup remedies are resilient to climate change impacts. These efforts include:

- Evaluating regulated sites and their vulnerability to climate change impacts through a statewide Geographic Information System.
- Conducting a sensitivity analysis to prioritize higher vulnerabilities to impacts such as drinking water and indoor air protection.
- Evaluating options, including regulatory drivers and incentive programs, for adaptation and resiliency measures.

Stephanie Fiorenza (BP) provided a comprehensive overview of ASTM's standard guides on climate resiliency. These guides (water guide in development) are voluntary frameworks designed for individuals, local governments, or businesses. They provide a risk management approach organized by U.S. regions and climate events that may aid in the evaluation of climate resiliency solutions to extreme weather events and sea level rise.

Barbara Maco (Wactor & Wick LLP & SURF Vice President) and Arianna Libera (USC Doctoral Candidate) spoke on SURF's newest technical initiative to (1) address the long-term sustainability of site remediation and reuse from climate change impacts and (2)



Haruko Wainwright presented her research at Savannah River. Photo

examine the benefits of rehabilitated land in strengthening community and ecosystem resilience.

SURF member **Haruko Wainwright (Lawrence Berkeley Laboratory)** reported on the lab's state-of-art flow and reactive transport modeling capabilities to assess this trade-off and evaluate the impact of flooding on residual heavy metals and radionuclides at the uranium-contaminated Savannah River Site. This research provides a framework for assessing the climate resiliency of remediated sites and exploring engineering solutions to enhance resilience.

SURF's draft TI report will be released in early 2018. SURF is also collaborating with MassDEP and the nonprofit EcoAdapt to develop a pilot project that will leverage the respective partners' experience and leadership in sustainable remediation and climate change adaptation. Massachusetts would be pivotal proving ground for testing the principles SURF developed not only for climate change and resilience but also in SURF's papers on the sustainable remediation framework (2011), remediation and redevelopment (2013), and social dimension of sustainable remediation (2015).

Upcoming Events & Conferences

28th Annual International Conference on Soil, Water, Energy, and Air — March 19-22, 2018 — San Diego, California

SURF is partnering with the Association for Environmental Health and Sciences Foundation (AEHS) for this conference that provides a forum for exchanging information about technological advances, new scientific achievements, and the effectiveness of existing environmental regulation programs. For more information, click [here](#).

Sustainable Water Management Conference — March 25-28, 2018 — Seattle, Washington

This four-day conference is sponsored by the American Water Works Association and focuses on water conservation/cost balancing, water resource management, and related aspects. For more information, click [here](#).

The Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds — April 8-12, 2018 — Palm Springs, California

This five-day conference focuses on the application of innovative technologies and approaches for characterizing, monitoring, and managing chlorinated and complex sites. Major themes include green and sustainable remediation, vapor intrusion, and technology transfer and stakeholder communications. For more information, click [here](#).

The 9th Northeast Sustainable Communities Workshop — May 23, 2018 — New Jersey Institute of Technology, Newark, New Jersey

The goal of this one-day workshop is to break new ground, offer new ideas, and posit new concepts on topics such as sustainability, contamination, resilience, and brownfields and their impact on community revitalization. For more information and to register, click [here](#).

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Help SURF Measure the Value of Sustainable Remediation

SURF is currently working on a technical initiative designed to better understand the value that sustainable remediation brings to the remediation community...and we need *your* input!

Please complete a short survey (click [HERE](#)) so we can gather feedback on sustainable remediation from a diverse group of stakeholders, including those who may not be familiar with using or considering sustainable remediation practices.

The survey takes about 5-10 minutes to complete. When polling is complete, SURF will prepare a summary of the findings. (Survey respondents' names and company affiliations will remain confidential.)

Feel free to distribute the survey link to others with whom you work. If you have any questions, contact Erin Healy, the leader of this technical initiative, at erin.healy@sustainableremediation.org.

Please complete the survey (click [HERE](#)) by January 15th!

Join us at the Sustainable Remediation Forum

Join SURF or Renew your Membership TODAY!

SURF provides great value to our members, the public, and the practice of remediation. We do this by supporting:

- Alignment with organizational sustainability goals
- Environmental footprint reduction
- Social responsibility and public outreach
- Reduced remediation costs and long-term liabilities
- Innovative thinking, research, and real world application
- Peer benchmarking (domestic and international)
- Access to leading-edge case studies
- Opportunities to collaborate on publications
- Networking and access to subject matter experts
- Academic outreach and mentoring

By joining SURF, you establish partnerships and build relationships with a wide variety of remediation stakeholders: industry and agency peers, customers, clients, academia, technology vendors, and the public. Our website, meetings, and communications provide a clearinghouse and source for the latest information about policy, case studies, best practices, and educational opportunities.

As a member, you have the opportunity to participate in SURF's Technical Initiatives. SURF has published several groundbreaking guidance documents, and recent or current initiatives include examining more sustainable practices for water use and reuse, compiling sustainable remediation case studies, assessing the social aspects of sustainable remediation, and exploring the viability of a sustainable remediation site rating and professional certification system.

SURF has several membership levels based on an individual's qualifications: Regular Member (dues are \$150 annually for new members and \$140 for renewing members), Government Member (complementary), and Student Member (dues are \$25 annually).

The term for all classes of Members is February 1 through January 31 of the following year.

Learn more and apply for membership at www.sustainableremediation.org/membership/.

Sponsorship

Sponsorship is a great way to demonstrate to your communities, clients, employees, or shareholders that you are committed to advancing the science and application of sustainable remediation.

As an appreciation for sponsorship:

- Your company or organization will receive complimentary SURF memberships and meeting registrations
- Your company's or organization's name will be displayed on the SURF website and hyperlinked to your webpage
- Your company's or organization's name will be displayed in the SURF newsletter and announced during SURF events
- Your company or organization may use the SURF Sponsor logo

To inquire about sponsorship options, contact:
president@sustainableremediation.org.

Find us online:

www.sustainableremediation.org