

The background of the header is a collage of images related to environmental remediation. On the left, there are several large, golden, reflective spheres. On the right, there is a photograph of a person in a full-body protective suit and mask working at a site, with the text "Contaminated Site" overlaid in white. The main title "Clean-Up Information" is written in a large, blue, serif font across the center.

# Clean-Up Information

## Welcome to the CLU-IN Internet Seminar!

### EPA Office of Research and Development's Office of Science Policy Mine and Mineral Processing Virtual Workshop Session 3 - Innovative Technologies and Strategies

*Sponsored by: US EPA Office of Research and Development (ORD)'s Office of Science Policy*

*Live Webinar: Wednesday, October 16, 2019, 1:00 PM-3:00 PM EDT (17:00-19:00 GMT)*

#### Instructors:

- Kate Garufi, EPA OSRTI (garufi.katherine@epa.gov)
- Chris Eckley, EPA Region 10 (Eckley.chris@epa.gov)
- Mark Johnson, EPA Office of Research and Development (Johnson.markg@Epa.gov)

#### Moderators:

- James Rice, ICF International Inc. (James.Rice@icf.com)
- Jean M Balent, US EPA Technology Innovation and Field Services Division (Balent.jean@epa.gov)

Visit the Clean Up Information Network online at [www.cluin.org](http://www.cluin.org)

# Seminar Homepage

The screenshot shows the EPA Clean-Up Information website. At the top, there is a navigation bar with the EPA logo, the text 'United States Environmental Protection Agency', and 'Technology Innovation and Field Services Division'. A search bar is located on the right. Below the navigation bar is a main header with the text 'Clean-Up Information' and 'Contaminated Site'. A secondary navigation bar contains links for 'Technologies', 'Contaminants', 'Issues', 'Strategies & Initiatives', 'Vendors & Developers', 'Training & Events', and 'Additional Resources'. The main content area features the seminar title 'Passive Treatment of Mining-Influenced Water: From Bench Scale to O&M', sponsored by the U.S. EPA Technology Innovation and Field Services Division. The event is a live webinar on Monday, November 14, 2016, from 1:00 PM to 3:00 PM EST. Two prominent buttons, 'Join Webinar' and 'Register', are displayed. Below these are tabs for 'Description', 'Presenters', 'Webinar Slides', 'Related Links', 'Feedback Form', and 'Tips'. The 'Description' tab is active, showing text about passive treatment systems and biochemical reactors (BCRs). A 'Feedback' box is overlaid on the right side of the page, with arrows pointing to the 'Feedback Form' tab and the 'Join Webinar' button. A 'Download Slides' box is overlaid on the 'Webinar Slides' tab. A 'Join the seminar online' box is overlaid on the 'Join Webinar' button. On the right sidebar, there are social media links, a 'Staying Connected' section with a 'USE ANY LINK' button, a 'Podcasts' section, and a 'NEWS ROOM' section. At the bottom of the sidebar, there are links for 'Live Events', 'Contact Us', 'Site Map', and 'Site Tour'.

EPA United States Environmental Protection Agency Technology Innovation and Field Services Division Search

## Clean-Up Information

Technologies Contaminants Issues Strategies & Initiatives Vendors & Developers Training & Events Additional Resources

CLU-IN | Training & Events | [Passive Treatment of Mining-Influenced Water: From Bench Scale to O&M](#)

### Passive Treatment of Mining-Influenced Water: From Bench Scale to O&M

Sponsored by: U.S. EPA Technology Innovation and Field Services Division

Live Webinar: Monday, November 14, 2016, 1:00 PM-3:00 PM EST (18:00-20:00 GMT)

[Join Webinar](#) [Register](#)

[Description](#) [Presenters](#) [Webinar Slides](#) [Related Links](#) [Feedback Form](#) [Tips](#)

Passive treatment refers to processes that do not require frequent human intervention, operation, or maintenance, and typically employ natural construction materials, natural treatment media, and the growth of natural vegetation. Biochemical reactors (BCRs) are a type of passive treatment system that uses microorganisms to remove contaminants from mining-influenced water (MIW). BCRs and other passive systems are effective and lower-maintenance treatment options for mine site cleanups. They provide opportunities to reduce the environmental footprint associated with treatment of MIW.

In recent years, development and implementation of passive systems has increased. However, there's still plenty to learn about their effectiveness. Pilot studies are good ways to study passive treatment and their application scenarios. In this webinar, two case studies will be presented that document design and implementation of BCRs to passively treat MIW – from bench-scale tests to full-scale operation and maintenance, including recovery of iron oxide byproducts for sale.

Case Study 1: Passive Treatment of Metal Mine Drainage at an Abandoned Mine near Lake Shasta

Staying Connected

Podcasts

NEWS ROOM

Live Events

Contact Us Site Map Site Tour

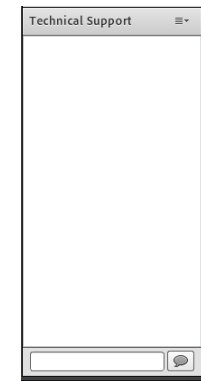
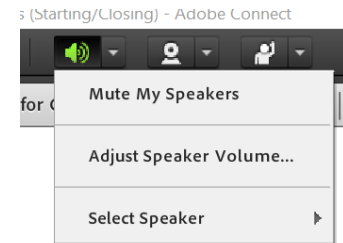
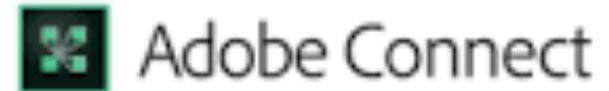
Join the seminar online

Download Slides

Feedback

# Housekeeping

- Join us via Adobe Connect for live broadcast.
- Default Audio is Online via PC Speakers/Headphones.
  - Phone Audio can be requested via Q&A
  - Please remain muted
- Comments, Questions, Tech Issues can be privately submitted in Q&A Window
- The event is being recorded.
- Download/Print webinar certificates by submitting feedback



Certificate of Participation

this is presented to

**Jean Balent**

for participation in the CUI 81 session  
Estimating Environmental Footprints Using SEFA (Spreadsheets for  
Environmental Footprint Analysis)

Sponsored by: EPA Technology Innovation and Field Services Division  
Delivered: October 28, 2014 2 Hours  
Certificate generated on February 10, 2015

Additional event information may be found at <http://www.cui.in.org/cui81>  
[www.cui.in.org](http://www.cui.in.org)

# Webinar Layout

The screenshot shows the Adobe Connect interface for a webinar titled "SBIR/STTR for Environmental Technologies". The interface includes a top toolbar with "Meeting" and audio controls, a central presentation area, a right-hand sidebar with navigation and sponsor information, and a bottom section for "Live Closed Captioning".

**Control online audio**: A callout box pointing to the audio control icons in the top toolbar.

**View presentation live online here**: A large central callout box overlaid on the presentation area.

**Enlarge presentation**: A callout box pointing to the "Share" button in the top toolbar.

**Information about Sponsors & Speakers**: A callout box pointing to the "Sponsored by" section in the sidebar, which lists logos for NIH, NSF, and EPA.

**Related websites and files**: A callout box pointing to the "Related URLs" section in the sidebar, which includes links like "CLUIN Archive", "Seminar Homepage", "Seminar Resources", "Seminar Feedback", and "NIH ERA page".

**Submit private questions, comments or report technical problems**: A callout box pointing to the "Q & A" section in the sidebar, which shows a message from a moderator.

**Live Closed Captioning**: A callout box pointing to the bottom section of the interface, which includes a text area for captions and a "No Captions" button.

## DISCLAIMER

**Notice: This presentation has been provided as part of a U.S. Environmental Protection Agency webinar. The document does not constitute EPA policy. Mention of trade names or commercial products does not constitute endorsement or recommendation for use. Links to non-EPA web sites do not imply any official EPA endorsement of or a responsibility for the opinions, ideas, data, or products presented at those locations or guarantee the validity of the information provided. Links to non-EPA servers are provided solely as a pointer to information that might be useful to EPA staff and the public.**



**Disclaimer**



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Contaminated Site

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