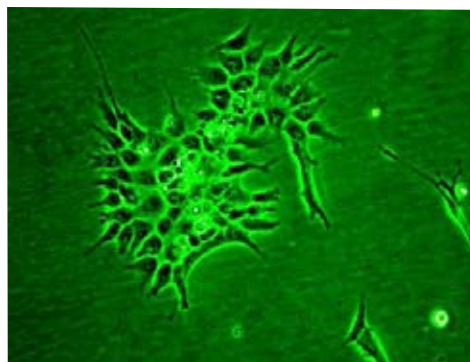


AMSER Spotlight: Microbial Life

AMSER often collaborates with other digital collections in order to bring their quality materials to our users. In each issue of our quarterly, we highlight a collection we have integrated into AMSER. Recently we partnered with Microbial Life Educational Resources (MLER), which is a collaborative project of the Marine Biology Laboratory, Woods Hole, MA, and Montana State University at Bozeman. Like AMSER, MLER is part of the National Science Digital Library (NSDL) and is supported by the National Science Foundation (NSF). The MLER collection aims to provide expert information that can be accessed via the Internet. The resources cover the subjects of ecology, diversity, and evolution of micro-organisms and apply to students, K-12 teachers, university faculty, and the general public. The resources within MLER are built around themes, initially focusing on microbial life in extreme environments and oceans. By providing these resources MLER hopes to close the distance between researchers and students.



The resources in MLER are selected and reviewed based on several criteria including: relevance to the study and understanding of the ecology, evolution, and diversity of microbial life; scientific integrity, reflecting contemporary (and sometimes historical) standards of



scientific understanding and practices; instructional value, including resources designed for teaching, learning (e.g. activities, assignments, laboratory and field exercises), and other resources that can be readily utilized to support instructional activities (e.g. data and data products, research results from funded projects, government agencies, research institutions); and reliability in the functions and accessibility of the resources. MLER is comprised of resources collected from a number of sources: government agencies, educational or research projects, credentialed experts, contributions from the community of resources that educators and researchers recommend, and more. Over the past few months, AMSER has integrated the best of Microbial Life's applicable resources and some examples from this impressive body of materials include:

Single-Celled Organisms [pdf]

<http://www.marine.usf.edu/pjoccean/packets/sp02/sp02u3p2.pdf>

This Project Oceanography lesson plan (PDF) explores the symbiotic relationships of single-celled organisms. In this activity, students

Microbial Life resources cover the subjects of ecology, diversity, and evolution of micro-organisms and apply to students, K-12 teachers, university faculty, and the general public.

compare and contrast three types of symbiotic relationships, describe the relationship between zooxanthellae (a dinoflagellate) and coral, and explain the effects of nitrogen-fixing bacteria on their symbiotic partners. It begins with an introduction to symbiotic relationships, the dinoflagellate/coral system, and cyanobacteria, and then features an activity called "Feeding Friends," in which students act out symbiotic relationships.

'Black Smokers' WebQuest

<http://science.uniserve.edu.au/school/quests/hydroventwq.html>

This website contains a WebQuest where students investigate one aspect of black smokers. The WebQuest provides a separate list of links for each research role, including geochemist, biologist, oceanographer,

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and geologist. Upon completing their specialist research, the students work in groups to get a better understanding of black smokers by presenting a position on whether to protect black smokers or continue research on them for possible benefits. The webpage is divided into the following sections: introduction, the task, the process and resources, conclusion, and hypertext dictionary. This site provides a wealth of knowledge with current information, many images, videos, and more.

Users can find all of the Microbial Life resources within the AMSER collection by clicking on the Advanced Search option, found at the top of any page on AMSER. Once on the Advanced Search page, click on "Show Limits" and select "Microbial Life" from within the Source field to see all of the available resources in AMSER. Many AMSER users study or teach in subjects where these resources could be readily utilized and we believe that AMSER's incorporation of MLER's fantastic collection of online resources should prove invaluable to the AMSER collection. The AMSER staff expects that the MLER resources will prove useful in a full range of educational settings – from laboratories to libraries to the classroom.

You can find MLER at:
<http://serc.carleton.edu/microbelife/>

Do you know of a great collection of resources that you'd like to see integrated into AMSER? Do you have a learning object that helps students truly understand a specific concept? If so, e-mail us at resources@amser.org, or follow the link at the bottom of the AMSER home page to submit a resource suggestion.

New from AMSER: Twitter



The term "social media" is heard constantly these days. Social media includes blogs, social networks, podcasts, message boards, and so on, referring to any group of people having conversations online or the technology that makes having those conversations possible. Social media has become a useful tool for non-profit organizations, including those focused on education. Recently discovered by the non-profit sector, this primarily free venue is used to create awareness, cultivate relationships, and even generate funds. Facebook, Twitter, LinkedIn, YouTube, and other social media platforms appeal to these organizations because they can spread their message and connect with individuals on a daily, or even hourly, basis.

These tools are becoming even more ubiquitous as they become more compatible with mobile technology. Mobile technology is different from other forms of social media communication because it is both interactive and always available to users.

The numbers on mobile use are hard to ignore:

- More than 270 million Americans (87 percent of the U.S. population) own a wireless device, according to CTIA - The Wireless Association.
- The use of "smartphones" with advanced capabilities such as web

browsing, streaming video access, and geographic location awareness is on the rise. In the first quarter of 2009, overall mobile-device sales were down 8.6 percent from the same period in 2008, but sales of smartphones were up 12.7 percent, according to technology research firm Gartner.

- Mobile phone use has something of a snowball effect, too. A March 2009 study by the Pew Internet & American Life Project found that 39 percent of U.S. adults say their mobile phones lead them online more frequently.



In our last *Quarterly*, AMSER announced that it had created a Facebook page and we have now begun with tweets (posts on Twitter) daily as well. Since joining Twitter we have not only been able to share AMSER news and resources with our followers but we have been able to follow other organizations with similar interests as well. The AMSER team has enjoyed our experience so far with Twitter as it is not just about what we put out in our tweets but also the tweets and Twitter friends we receive.

Go to Twitter today and follow AmserDotOrg to keep up with the latest AMSER resources, news, and events.



Focus on AMSER Resources: Staff Picks

AMSER staff members often have their own favorite resources that they come across as they work within the collection. Here are some of our most recent favorites being passed around the office.

From Jungle to Lab: The Study of Life's Complexity

<http://www.exploratorium.org/origins/belize-london/>

San Francisco's Exploratorium showcases the work of researchers at the Natural History Museum in London and Las Cuevas Biological Station in Belize, who are investigating the nature and diversity of life. From Jungle to Lab is part of the Exploratorium's Origin Project, created to explain how scientists explore "the beginnings of the universe, of matter, of the earth, and of life itself." This well-designed Web site contains loads of multimedia features, such as a slide show of Las Cuevas (including a 360 view of the biological station), video and audio clips of researchers explaining their work, Web casts, and much more. The contents of this site are thoughtfully organized and skillfully presented.



For example, the Ideas section appears as a virtual field notebook, each page addressing a different aspect of evolution for biodiversity. In all, this is a fantastic Web site that is worth a visit for design features alone, if not the enlightening content.

ME:TAL - Mathematics for Economics: Enhancing Teaching and Learning

<http://www.metalproject.co.uk>

Working at the University of Nottingham, Dr. Rebecca Taylor and her colleagues have created this very fine set of resources designed to assist teachers who seek to utilize mathematics in the service of teaching economics. Visitors can learn more about their work in the "About the Team" section, and they can also view a summary of the project's work so far. The real heart of the site is contained within the "Resource Room," which contains streaming videos, teaching and learning guides, and a question bank. Visitors may wish to start with the question bank, which contains files that can be used in problem sheets, assessment exercises, and tutorials. The exercises include those drawing on algebra, number theory, and differentiation. The site also includes teaching and learning guides that address linear equations, finance growth, and either other math and economics topics.

Ecology and Society

<http://www.ecologyandsociety.org/Journal/>

Formerly Conservation Ecology, this electronic, open access, peer-reviewed, multi-disciplinary journal provides research findings on the management, stewardship and sustainable use of ecological systems, resources and biological diversity at all levels, the role natural systems play in social and political systems, and the effect of social, economic and political institutions on ecological systems. All articles from all back issues are available in the archives from the first issue published in 1994 to the most current issue in progress; visitors can

find these by clicking on the "Find back issues" link to the right. As always, submission guidelines and journal policies are also available for those looking to publish in the journal.

AeroFiles

<http://www.aerofiles.com/>



The AeroFiles Web site is dedicated to providing information on the history of American Aviation for the past one hundred years. Information on civil, commercial and military aviation can be found on this site. The section "Aircraft A-Z" contains history, information, and pictures on North American aircrafts built between 1903 and 2003. A useful glossary aviation terms, abbreviations, and data codes will help to navigate the more complex sections of this site. The large "Military" section offers a variety of information on the U.S. Air Force, U.S. Coast Guard, U.S. Marine Corps and U.S. Navy. This site contains a good mix of information suitable for both the curious novice and those looking for more advanced technical information.

Demoweb

<http://www.physics.ucla.edu/demoweb/demomanual>

This site, from UCLA's Department of Physics, contains web and in-class demonstrations of physics concepts in

Focus on AMSER Resources

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the topic areas of mechanics, harmonic motion and waves, electricity and magnetism, acoustics, optics, matter and thermodynamics, modern physics, and much more. The page can be searched for key physics concepts as well, and a table of contents can help visitors find exactly the topic they are looking for. It is an excellent source of activities and simulations to connect physics to students' everyday lives. Find a demo of horizontal and vertical bell drops, a ballistic pendulum, a falling chimney, and Rudnick's string, among many others.

The Body Explained

<http://www.bioedonline.org/body-explained/>

BioEdOnline from the Baylor College of Medicine has been producing high-quality educational resources for a number of years, so it's nice to learn about their rather fun and informative "The Body Explained" resource. Narrated and hosted by Cassius Bordelon, PhD, this video production answers a number of common questions about how the body works. The segments are brief, and they may just spark a new interest in a curious student. Currently, there are around a dozen or so segments offered on the site, and they cover topics such as why our ears pop, why we sneeze, and what causes hiccups. Interested parties can also download the short segments for use in their classroom.

Would you like to be featured in a future AMSER Quarterly? We'd love to hear from you and learn about your favorite AMSER resources and how you've been using them in an educational setting. Please e-mail us at amser@amser.org for details.

Calendar of AMSER Events

Where in the world is AMSER?

We'll be at various conferences and meetings this year and we'd love to talk to you about what you're doing with digital resources and how we can make AMSER more useful to you and your students. Here's where we'll be and when:

October

Conference on Information Technology (CIT)

October 11-14, 2009
Detroit, Michigan

Wisconsin Library Association (WLA) Annual Meeting

October 20-23, 2009
Appleton, Wisconsin

Advanced Technological Education (ATE) PI Meeting

October 21-23, 2009
Washington, DC

November

American Mathematical Association for Two-Year Colleges (AMATYC) Annual Conference

November 12-15, 2009
Las Vegas, Nevada

NSDL Annual Meeting

November 17-19, 2009
Washington, DC

Association for Career and Technical Education (ACTE)

November 19-21, 2009
Nashville, Tennessee

For more AMSER events and links go to <http://www.amser.org/events>

Contact Information

Have a question? Want to share information about how you're using AMSER or other digital materials in your classroom? Please contact us!

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