

AMSER Spotlight: Advanced Technological Education (ATE) Central

In each edition of our *Quarterly*, AMSER highlights a collection we have integrated into our portal. This time, AMSER has collaborated with the Advanced Technological Education (ATE) projects and centers to create a partner portal called ATE Central. The ATE projects and centers are National Science Foundation (NSF) initiatives that work with high schools, higher education, and industry to develop and implement ideas for improving the skills of technicians and the educators who teach them. ATE Central, funded by NSF, is an online portal and collection of materials designed to help educators, students, and the general public explore and take advantage of the entire depth and breadth of the Advanced Technological Education program. Visit ATE Central at <http://atecentral.net>.



A great deal of material has been created since the NSF began funding ATE's innovative technician education efforts. In 2007 alone, fifty-seven ATE projects and centers developed 2,632 courses, modules, and activities. In 2008, ATE Central began collecting these educational resources in order to make them easier for educators and the public to find and use. ATE Central's digital library will help direct users to the full range of high-impact ATE resources available online, including curricula, learning objects, and podcasts. ATE centers and projects have always individually shared what



they developed, but ATE Central marks the first program-wide, collective dissemination effort. It builds on the work of the ATERC Network, which previously linked eleven ATE Resource Centers. It also fully connects ATE with AMSER which both draw from a single underlying resource database, so the two projects are closely linked, and resources cataloged in ATE Central automatically become listed with both AMSER and the National Science Digital Library (NSDL).

AMSER users are encouraged to go to ATE Central and take a look at our partner site and the resources available. In addition to resources, ATE Central provides information on ATE centers and projects and presents an excellent way to learn more about the ATE program. Many of the resources in ATE Central can also be found in AMSER. Users can go to the Advanced Search option in AMSER and click on "Show Limits" and select "ATE Projects" to see all of the project resources available in AMSER. ATE Central resources can also be found in AMSER using the Advanced Search option, just click on "Show Limits" and select the specific Center in the Source field.

ATE Central is an online portal and collection of materials designed to help educators, students, and the general public explore and take advantage of the Advanced Technological Education program.

Some of the resources integrated into AMSER from ATE centers and projects include:

Electromechanical Devices, Systems, and Applications Digital Library
<http://electronics.wisc-online.com/>

These interactive learning objects focus on concepts that cover a broad-based electromechanical program. The majority of these objects have been created for electronics, hydraulics, pneumatics, mechanical design, and process control. Instructors from Fox Valley Technical College and other colleges in the Wisconsin Technical College System are creating these objects. FVTC has partnered with four other colleges throughout the United States to contribute to this repository. The effectiveness of learning objects was demonstrated in an evaluation

continued on page 2

In this Issue...	
AMSER Spotlight: ATE Central	1
New from AMSER: iTunes U	2
Focus on AMSER Resources: Podcasts	3
Calendar of AMSER Events	4
Contact Us	4

conducted at FVTC during the 2004-2005 academic year. A brief summary of the evaluation can be read by clicking on the Assessment button on the homepage. These objects can also be found on the Wisc-Online digital library at www.wisconline.org. Learning objects are available to be used at no cost by teachers and students worldwide via the Internet.

National Nanotechnology Infrastructure Network (NNIN) Educational Portal

http://www.nnin.org/nnin_edu.html

The National Nanotechnology Infrastructure Network (NNIN) is an integrated partnership of thirteen user facilities, supported by NSF, providing unparalleled opportunities for nanoscience and nanotechnology research. The network provides extensive support in nanoscale fabrication, synthesis, characterization, modeling, design, computation and hands-on training in an open, hands-on environment, available to all qualified users. On this page, visitors will find the project's educational materials, including resources for K-12, undergraduates, graduate students, and professionals. Videos, lesson plans, links to outside resources, and professional development opportunities for teachers are all available here.

New from AMSER: iTunes U

New technologies are continually transforming the way in which instructors teach, both in and outside of the classroom. Students are often equipped with laptops and MP3 players and expect to have access to information, no matter where they are. Instructors are adapting in order to utilize these new technologies to better reach their students. Students in the new millennium are used to getting information from the web and for some the web is their primary source for educational information whether it is via email, searching Google, or listening to and watching lectures online. Because learning no longer only happens at a desk in a traditional classroom, more and more faculty are looking for ways to distribute digital lessons to their students. It is for this reason that the National Science Digital Library and their partners have collaborated with iTunes U to provide access to audio, video, and other multimedia resources for science and math education.

profit educational providers. The NSDL material found on iTunes U Beyond Campus includes content from Pathways partners like AMSER, ChemEd DL, and the Exploratorium and covers subjects including chemistry, earth science, and nanotechnology. As with all materials within the NSDL there is no cost to use or download the materials from NSDL found on iTunes U.



AMSER has joined NSDL's launch on iTunesU by providing an initial series of 50 podcasts, which offer perspectives on information and communications technologies (ICT) industry and education. The podcasts, created by Gordon F. Snyder, Jr. at the National Center for Telecommunications Technologies and Mike Quissaanee from the Mid-Atlantic Institute for Telecommunications Technologies and offer a diverse array of topics including airport security, Skype, municipal wi-fi, and the iPhone.

To find AMSER and NSDL on iTunes U, you must first have iTunes installed. Please visit the NSDL iTunes U site (<http://nsdl.org/iTunesU/>) for links to download iTunes and to find NSDL and AMSER content. Additional content from AMSER and other NSDL projects will be added on a regular basis, so users are encouraged to check back often to view new materials. AMSER is also always looking for collaborators, so if you or someone you know would like to partner with AMSER and bring your audio, video, or other multimedia resource to AMSER and iTunes U, please contact Chanda Halderman at chalderman@scout.wisc.edu.



iTunes U is a free service which provides current users of Apple's iTunes access to audio and video from leading educational institutions. The Beyond Campus section of iTunes includes museums, public radio and television stations, and other non-

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.

Focus on AMSER Resources: Podcasts

One of the advantages of using the web to supplement math and science education is the availability of multimedia resources. AMSER has made a special effort to collect various types of multimedia that will be useful in math and science classrooms, including podcasts. Podcasts are audio and/or video clips for use with either portable communication devices or personal computers. AMSER's collection of podcasts range in topics from anatomy to space science to mathematics. As with all AMSER resources, each podcast has been reviewed by content specialists and librarians to ensure high quality content from an authoritative source. One collection of AMSER podcasts, Gordon and Mike's ICT Podcasts, can also be found as part of NSDL in iTunes U. For more information, see What's New in AMSER on page 2 of this issue.

We've made finding podcasts in AMSER easy for you. Just use the keyword search box at the top of every AMSER page, or the keyword search field in the Advanced Search page and search for "podcasts" to pull up all podcasts available within AMSER. If you would like to narrow your search, combine "podcasts" with a specific topic, such as "dentistry," to get the podcast to best suit your needs.

search:

Another way to find podcasts is to search for the specific file type, such as mp3, mp4, or m3u if you have specific technical requirements. And, as with all AMSER resources, you can add these to a folder if you've created an AMSER account, and share them with students or colleagues. Below you will find a small sample of some of the podcasts available within AMSER.

ADA: Podcasts

<http://www.ada.org/prof/resources/podcasts/>

This site links to the ADA's podcast page. Here, visitors can download a file directly and listen on their PC or the podcasts can be subscribed to using various subscription software such as: iTunes, Juice, jPodder, etc. Visitors can also subscribe to a RSS feed which notifies users of new podcasts and each episode allows the listener to post comments. Episodes available include: Five Important Healthcare Trends; Hiring and Keeping a Great Dental Team; and Finding and Keeping the Patient. These podcasts will be useful to those studying to be in the dental fields as well as for those teaching or practicing.

USGS CoreCast

<http://www.usgs.gov/corecast/>



The United States Geological Survey has created their own podcast series, and the results of their labors can be explored here. The site states that their "CoreCast" is "natural science from the inside out", which seems like an appropriate label. The podcasts range in length from two to fifteen minutes, and they cover topics such as polar bear research, sex-changing fish, and climate change. One podcast that shouldn't be overlooked is "This Episode of CoreCast is Highly Questionable". In a mere three minutes, host Scott Horvath responds to a

number of questions in an engaging fashion. After listening to an episode or two, visitors will probably want to sign up to receive email updates about new episodes.

NSTA: Lab Out Loud

<http://www.nsta.org/publications/aboutloud.aspx>

This series of podcasts is published by the National Science Teachers Association, and is described as a biweekly podcast from NSTA on science teaching, science news, and anything else with the word "science" in it. Science teachers Brian Bartel and Dale Basier discuss science news and education with "leading scientist, researchers, science writers, and other important figures in the field." Each podcast includes a selection of links and notes which let the listener delve deeper into each topic. Recent episodes have included: Cloning Monkey Embryos, DNA Fingerprinting, and the Mars Rover. The episodes can be downloaded from the site and can be subscribed to using RSS or through iTunes, Google, or Yahoo.

Science@Nasa Podcast

<http://science.nasa.gov/podcast.htm>

Science@NASA is brought to you by NASA's Marshall Space Flight Center. The organization strives to bring you the most current news and information about space science and NASA research in a variety of mediums. This podcast section of Science@NASA's website contains a series of audio files on new discoveries and topics that have included: asteroids, planets, space weather, orphan stars, atmospheric waves and other space related observations and issues. Audio files are available in mp3 format, and can be downloaded directly to your computer or portable mp3 player. All of

continued on page 4

the Science@NASA podcasts are also available for free in iTunes. If you enjoy these podcasts, be sure to subscribe to them using the RSS feed available on their site, or by clicking on the "Subscribe" button in iTunes.

Small Business Video Seminar

<http://www.nypl.org/research/sibl/smallbiz/video.html>

Starting a small business can be a risky proposition, but with assistance from those who have embarked on such an venture in the past, the whole process can be made smoother. The New York Public Library has teamed up with the Partnership for New York City to create this collection of "how-to" seminars and podcasts. While the sessions relate to doing business in New York specifically, much of the material and suggestions could apply to persons interested in starting a business just about anywhere in the United States. There are eleven broadcasts available, and they include such presentations as "How to Start a Fashion Line in Today's Market", "Legal Strategies for Small Businesses" and "A Quick Guide to Building a Successful Export Business".

If you know of or create your own podcasts and would like to see them added to the AMSER collection, contact Chanda Halderman at chalderman@scout.wisc.edu. Also, you may check out any of the resources mentioned here by visiting <http://amser.org/amserquarterly/podcasts>.

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:

February	March	April
American Association for the Advancement of Science (AAAS) February 12-16, 2009 Chicago, Illinois	League for Innovation March 15-18, 2009 Reno-Tahoe, Nevada	American Association of Community Colleges (AACCC) April 4-7, 2009 Phoenix, Arizona
Wisconsin Association of Career and Technical Education (WACTE) February 25-26, 2009 Appleton, Wisconsin		Coalition for Networked Information (CNI) Task Force April 6-7, 2009 Minneapolis, Minnesota
		Wisconsin Association of Academic Librarians (WAAL) April 21-24, 2009 Green Lake, Wisconsin

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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