See Faculty Profile, page 3

Professors Anna Grinath and Ryan Seth Jones show the live interactive biology modeling program they developed using an ITD innovation grant.

MTSU Assistant Professor Ryan Seth Jones wanted a way to promote better “arguments” in the classroom.

So he and Biology Assistant Professor Anna Grinath successfully applied for an ITD innovation grant to create Group-Based Collaborative Computing to Support Modeling and Argumentation in Large Lecture Classes.

In other words—a highly visual, interactive way to engage students in developing and testing their own scientific theories in real time.

As a result, MTSU this spring became the first university in the country to use this type of software platform in large undergraduate lectures, said Jones, who teaches in the College of Education.
How to make sure A/V materials have captioning

In our effort to make classroom content truly accessible, sometimes it’s necessary to go that extra mile and make sure Closed Captioning is included.

Disclaimer: You’ll want to abide by any Fair Use copyright laws when performing these operations in the same way that you’d protect the copyright of the original DVD.

Preserving Subtitles and Captions from DVD

I’d like to show you a simple way to convert a DVD to a single file (MP4) while preserving the captions and subtitles from the original disc. We’ll be using HandBrake to open the DVD disc, determine the encoding settings, add subtitle tracks, and process the video. If you don’t have HandBrake already installed, use the link above, and be sure to download the correct version for your operating system.

Install the DVD library file

DVDs are encrypted in a way that makes them difficult to copy. However, you can add a single file to HandBrake’s program folder in order to gain access to a DVD’s contents. Go to VideoLAN.org’s libDvdCcss download page and go into the folder for your operating system. The 32-bit versions of Windows will need to use the win32 folder, and 64-bit versions of Windows will use the win64 folder.

Once downloaded, Windows users can copy the libdvdcss.dll file and paste it into the HandBrake folder (usually C:\ Program Files\HandBrake):

![HandBrake folder screenshot]

After choosing your disc, it will take a minute for HandBrake to scan for video files.

Choose the correct Title

HandBrake will look for the video segment with the longest play time, so it will probably automatically find the video you’d like to save from the disc.

Open the disc

Next, we’ll need to choose the source media. HandBrake should open to a screen where you can choose your DVD, if it is already inserted to the computer:

![HandBrake source selection screenshot]

See Access Success, page 7

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Faculty Profile: Grinath and Jones

The grant was used to purchase model-based simulation software and programs developed by a Vanderbilt professor to help students use model-based reasoning about scientific phenomena—posing questions, doing investigations, and building computer simulation models.

Most importantly, it allows them to analyze and interpret data and present their findings from the evidence—i.e., the "argument"—all live on screen in the classroom.

“One of the things I’m particularly interested in is helping students use modeling as a tool,” Jones said. Specifically, the program uses “agent-based” modeling, he said.

“Agent-based modeling is an environment, a technique scientists use where basically you have things in the model space and you give them fairly simple rules to follow. What you're trying to understand is when they all start following these rules together, what happens?” Jones said.

“Every little agent is only following two or three simple rules, but when they all do it together it creates this surprising, complicated action,” he said.

Grinath used the program in undergraduate introductory biology classes this spring, with plans to continue and expand usage this fall. These classes can have 60–100 students or more.

Similar interactive classroom software has been used in smaller classes, but it had proven “difficult to implement in a large lecture setting,” they wrote in their application to the grant committee.

“I think one of the biggest benefits was with students playing a participatory role—either as an agent in the model or the ones setting the parameters and seeing what happened—it was very powerful,” Grinath said. “In our classrooms we tend to focus on maybe one main idea we are trying to get out. . . . (The program) allowed us to let the students explore the ideas and get inspired by each other's ideas.”

Grinath said students responded positively to the program.

“The students really thought it was cool that they had their iPads in front of them or their laptops, and they could ask, 'I wonder what would happen if I did this?' And they could do it and immediately test that idea,” Grinath said. “That was a really powerful tool in a class of 60 students.”

Students working in groups can change the action of agents into a pre-set scientific model to see the results and use it to support their theories. While each student works on his or her own computer, the results are shown together in a “gallery.”

“I can see what I am doing along with what other people are doing,” Jones said. “One of the goals of science classes is for students to understand how to think and communicate in ways that are consistent with how scientists think and communicate. And part of that is hearing other people's arguments, putting them against mine, critiquing them, justifying them, and that is a pretty hard thing to do with 75 to 100 to 125 students.”

One model shows a virus spreading among students on the screen. On this one, students can move their agent around on the screen to test theories on viral outbreaks while avoiding other agents.

“If I touch someone who has the disease, I get infected,” Jones said. “It's almost a game. What we're trying to understand is how does the infection rate grow? At what point does it start growing fast? Why do we think it started growing fast?"

Teachers can change factors such as the recovery rate, allowing victims to become immune after they are infected once, or increasing or decreasing the mortality rate. They can set it up where the symptoms are visible or not visible.

“Then how does that change the growth curve?” Jones said. “Then we could establish some policies, rules that we are all going to follow.”

Another one of the models creates an eco-system with sheep, wolves and grass and allows students to influence the three factors to achieve various results illustrating predation. A third one shows forest growth and its influence on climate change.

“How could you create an ecosystem so it pulls carbon out of the air . . . and it holds onto it—it doesn't let it go back?” he said.

Once the grant was awarded, Jones, Grinath, and Vanderbilt’s Corey Brady collaborated on the first three programs, either modifying existing programs or creating new ones. Jones credited ITD Local Service Provider Stephen James with providing key technical support for the project.

Jones and Grinath also used the grant for special plastic bins that each store and charge six iPads for use in transporting the program classrooms.

The program can be downloaded on students’ own laptops or even smartphones. Eventually the program can be checked out through the Center for Educational Media for use in other courses of study.

“You could simulate all sorts of different things based on what class you are in. So the actual idea of the group-based collaborative computing definitely expands to all disciplines,” Grinath said.
Franklin participates in Extron training, Emerging Tech school

Alan Franklin, ITD director of Client Services, attended the Extron 2019 Technical Advisory Council March 11–12 in Anaheim, California.

“Participating in the Extron TAC granted me unfettered access to future Extron product designs and the opportunity to give feedback on how those products could be redesigned to better meet the needs of both MTSU and other higher education institutions,” Franklin said.

The TAC involves active participation with the manufacturer’s engineering teams for its products. The engineering team introduces attendees to a wide variety of future product designs and requests feedback on any changes or modifications which would make the product more useful in individual environments, Franklin said.

Also this spring, Franklin attended the Extron School of Emerging Technologies for Higher Education. The gathering is designed to provide in-depth instruction on new and emerging A/V technologies.

Educators who complete this two-day school attain a greater understanding of digital A/V system design skills and knowledge of different technologies.

This includes streaming technologies, designing digital systems, advanced fiber-optic design principles, the evolution of configurable control, and audio fundamentals.

These acquired skills and capabilities are applied in hands-on simulations where you are tasked with the planning and execution of real-world A/V scenarios.

Other schools represented at this TAC were Princeton, Georgia Tech, Boston College, and Texas State.

Heidt is honored as MTSU Administrative Employee of Year

ITD web designer Alecia Heidt was honored as MTSU Administrative “Employee of the Year” in April.

The recipients are selected annually by the Employee Recognition Committee to recognize University employees “whose hard work and commitment contribute to the success of MTSU.” Awards are presented in the categories of Administrative, Classified, Secretarial/Clerical, and Technical/Service.

“I honestly had no idea I would be the winner. It was a complete surprise,” Heidt said. “There are so many talented people at the University, I assumed it would be someone else.”

Heidt said she believes the award was given due to her work maintaining the University’s digital communication (web and signage) while the department was down by two web developers.

“I was a team of one a few years back. During that time, I was able to support our community of web editors, digital sign content editors, and push out a template change to mtsu.edu,” she said.

Heidt has been a web developer for ITD nearly seven years. She graduated from Purdue University in 2003 with a bachelor’s degree in Computer Graphics Technology with a focus on Interactive Multimedia and Web Development. After college, she started her career as a graphic designer at The Republic newspaper in Columbus, Indiana.

Later she worked as a graphic and web designer at Communication Components.

She and husband Andy Heidt, a photographer for MTSU’s Creative Marketing Solutions, have a daughter, Clara.
After 10 years as a math instructor, Jan Pontia now prefers her role of “teaching the teachers” how to incorporate technology in their classroom.

“I had a friend say to me, ‘Once a teacher, always a teacher,’ and I didn’t understand it at that point, but I understand that phrase now,” said Pontia, who joined ITD in January 2017 as an instructional technology specialist focusing on helping faculty use Desire2Learn (D2L).

“I don’t think I ever left teaching. I don’t stand in front of a classroom of students like I used to but I have the best of both worlds. I get to enjoy all the evolving technology, and I get to work with faculty in a variety of ways—with FITC workshops, the updated D2L support area of the AIT section of our website (mtsu.edu/ait), one-on-one sessions in our lab, the phone calls, the emails, and with a self-paced course for learning to use D2L—I feel like I’m still teaching."

Pontia holds a bachelor’s degree in Math Education from West Liberty University, not far across the Ohio River from where she grew up in eastern Ohio.

But the transition to instructional tech began when she was earning a master’s degree in Math and Science Education at Wheeling Jesuit University in West Virginia.

“When I was getting my master’s degree, the director of IT was the instructor of one of my UNIX classes and he said ‘I have an open IT position I’d love for you to apply for,’” she said. She got that part-time IT job and also another one at the NASA Teacher Resource Center located on campus, which involved working with students from preschool to college level.

Later, she had to choose between those two positions and so the part-time IT job became full time.

“He wanted me to start helping the faculty at the university with using technology, along with the IT work that I was doing,” Pontia said. “The part that always remained the most natural for me was working with faculty.”

From Wheeling Jesuit, she worked at Birmingham-Southern College, then at Northwest Florida State College in Niceville, Florida. There she enjoyed the love of water that began as a child living just blocks from the Ohio River.

Want to enlist in online D2L Bootcamp?
Jan Pontia, instructional technology specialist, helped to develop a self-paced online course called D2L Bootcamp.
While it is geared toward helping faculty who are beginners to Desire2Learn, it also offers some features for veterans of D2L.
Faculty can self-register from the D2L homepage. 
Skype Spotlight: Here are some more summer S4B FAQs

Following is Part 2 of Skype for Business (S4B) FAQs:

Who has a MTSU Skype for Business account?
At this time, Skype for Business is enabled for users who have been assigned a personal MTSU extension. If you currently do not have a personal extension and would like one, please contact Telecom.

What is my Skype for Business sign-in address?
Your Skype for Business sign-in address is the same as your primary MTSU email address, i.e. firstname.lastname@mtsu.edu. If you are having issues signing in to Skype for Business, please contact Telecom.

How can I get Skype for Business for Mac?
Skype for Business is not automatically installed on Macs. Please contact your department’s tech support or the ITD Help Desk to request that the software be installed.

Can I share PII, HIPAA, FERPA, or other sensitive data using Skype for Business?
Skype for Business instant messaging and file transfer fall under MTSU’s University Policy 930 (Electronic Mail Acceptable Use) and therefore should NOT be used to disclose any data considered confidential or sensitive. If after reading the policy you are still uncertain as to what information is acceptable, please contact the ITD Help Desk.

Can I use Skype for Business to communicate with other institutions outside of MTSU?
MTSU has implemented “open federation,” which means you can connect with other Skype for Business users at institutions around the world that also have open federation or that have added us to their allow list. If you’re not sure, contact them first by phone or email to ask. If the organization has open federation, you can add their users to your Skype for Business Contacts list by adding their Session Initial Protocol address (usually their email address). Then, you can use Skype for Business to chat and make voice and video calls just as you do with MTSU Skype for Business users. If they do not have open federation and would like to add us to their allowed list, please provide their ITD contact name to the ITD Help Desk and we will work with them.

Can I invite people to a Skype for Business meeting if they aren’t using Skype for Business or Skype?
Yes. Microsoft offers a Skype for Business web application that allows people to join a meeting via a web browser. The web application requires installing a browser plug-in for the best experience and fullest functionality via the browser.

Can I change my photo in Skype for Business?
Yes, you can change or add a picture to your Skype for Business account. Go to MTSU’s web mail, sign in with FSA credentials, click on your name on the top right of the screen, under the picture click Change, click on the folder, add a picture and save.

Where can I get additional information and training?
More information, videos and user guides, can be found at mtsu.edu/skype. For additional training, email uc.training@mtsu.edu.

Dynamic Forms training sessions offered in July and August

Have you ever wanted to learn how to create digital versions of paper forms for easier and quicker submission? Training is being offered by ITD in July and August on how to create Dynamic Forms for your department’s paperwork process.

Web-based forms create an easy and accessible way to gather responses, while eliminating indecipherable handwriting, missing information, and misdirected submissions.

The following training sessions have been scheduled:

- 10 a.m. July 29—Beginner Dynamic Forms Training. Discuss Dynamic Forms functionality and see a short demo on how to build within the form and best practices.

- 10 a.m. July 11 and Aug. 12—Advanced Dynamic Forms Training. More in-depth training that covers creating rules and setting up approver workflows. (It’s recommended that you take the Beginner Dynamic Forms Training first.)

To register visit the ITD workshops calendar at mtsu.edu/itd/workshops.php.
First course redesign project using Lightboard studio is completed

The ITD Instructional Support Team completed its first course redesign project using the new Lightboard studio this spring. Kourtney Smith, ITD learning multimedia developer, and Bill Burgess, Instructional Accessibility Specialist, worked with Mathmatical Services faculty Rebecca Calahan and James Hart, and graduate students, to create the videos.

“They each chose one or two of the topics and wrote their own script for it. Bill and I edited the scripts for grammar and accessibility, and then we had each sign up for a one- or two-hour taping session,” Smith said.

“Overall, the videos turned out well. Creating and using a script helped us make the videos accessible, as well as helped cut down on post-production editing because they needed to be done in one take.”

One of the videos on the subject of “Logic” can be viewed at https://youtu.be/P2EfFhzGF2g.

The LT&ITC completed the small Multimedia Studio featuring Lightboard and green-screen capabilities in order to create fresh new classroom audiovisual components for University faculty.

The small green-screen studio is for creating videos that put objects or even professors into various backgrounds.

The goal is to create audiovisual content tailor-made for their teaching plans rather than borrowing other people’s work from online sources like YouTube.

Anyone interested in using the studio can contact the LT&ITC at ltanditc@mtsu.edu or 615-904-8189.

If not, you can use the Title dropdown to choose a different video file from the disc:

Add Subtitle and Caption tracks

Next, you’ll go to the Subtitles tab and add any pertinent subtitles and captions. If you’re not sure about the difference, captions are specifically designed for people with a hearing impairment or deafness (including sound effects and speakers’ names), and subtitles are just meant to convey dialog. Once you’re in the Subtitles tab, click the Add Track button. Last, choose Add All Remaining Tracks:

You did it! Again, you take full copyright responsibility in creating digital copies of DVDs, but Fair Use of sections of content is allowed in an educational setting, such as the MTSU classroom.

If you have any accessibility questions, please contact the MTSU Instructional Technology Center at 615-904-8189.
John Patterson, ITD assistant director of Administrative Information Systems Services, created a new shared communications workspace for the College of Graduate Studies. Patterson worked with Mariah Cozart, graduate assistant, and Kimberly Douglass, associate dean of the CGS, to develop the ticket system similar to the Footprints system used by the ITD Help Desk. The project began in December and went live on April 17.

“Overall, Footprints supports our strategic goals of recruiting, retaining, and graduating high-quality graduate students,” Cozart said. “This system allows us to meet an industry standard of centralized communication and graduate operations.” The goal was to prevent duplicated effort and the loss of information during the process by recording communications and action items involving prospective students in one central digital workspace. As applicants interact with CGS staff, all relevant faculty and staff are updated on the progress.

“John Patterson was instrumental in the conceptualization, development, and implementation phases of this project. He continues to assist in refining the system to meet the needs of our customers,” Cozart said. “Our goal is to facilitate applicants and students in their pursuit of a high-quality education. Footprints gives us the data, info, and knowledge to support our applicants and students efficiently and effectively.” Prospective and current CGS students can email askgrad@mtsu.edu to create a ticket in their Footprints system that is shared and updated by all faculty and staff members.

MTSU’s Banner Document Management (BDM) system upgraded

Several upgrades have been made this summer to MTSU’s imaging system—Banner Document Management (BDM). BDM was upgraded to version 8.7.1, and the Application Xtender (AX), which is the backbone for scanning and viewing documents in BDM, was upgraded to the 16.3 version on June 24. BDM was brought down June 22 for completing a full backup and to start running a conversion utility on all documents allowing annotations to display correctly in the new BDM version. The annotations conversion was a multi-day process.

BDM 8.7.1 utilizes MTSU’s Active Directory/FSA credentials for single sign-on. Even though it is browser neutral, MTSU recommends running BDM from Chrome/Banner 9. In Banner 9, the top right toolbar provides access to BDM by clicking ADD or RETRIEVE. Additionally, if you click on TOOLS you can access Banner Document Management at the bottom of the popup window.

Additional access is now provided through a direct BDM link on the PipelineMT Home page under Employee Resources. We are currently working with Ellucian, BDM’s vendor, to get the BDM sign on working again in Banner 8 using the Internet Explorer browser.

Since the new version is fully web-based, ActiveX plugins are no longer needed for scanning and viewing documents in Web AX. New Captiva Cloud software can be installed on desktops across campus needing to scan directly into BDM. Please contact your ITD LSP or ITD Help Desk at 615-898-5345 to get further assistance for scanner setup. Also, it is recommended to stop using the TWAIN driver for scanning and use the ISIS driver instead.

This AX 16.3 video can be viewed in order to help get an understanding of the changes from this upgrade and the AX 16.3 Web Access User Guide can be found on BannerDocs.

The AX 16.3 key board shortcuts are as follows:

<table>
<thead>
<tr>
<th>SHORT CUT</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTRL + ALT + n</td>
<td>Upload New Document</td>
</tr>
<tr>
<td>CTRL + ALT + r</td>
<td>Upload New Batch</td>
</tr>
<tr>
<td>CTRL + ALT + b</td>
<td>Manage Batches</td>
</tr>
<tr>
<td>CTRL + ALT + c</td>
<td>Select Scanner</td>
</tr>
<tr>
<td>CTRL + ALT + s</td>
<td>Scan</td>
</tr>
<tr>
<td>Batches</td>
<td></td>
</tr>
<tr>
<td>CTRL + ALT + t</td>
<td>Attach current page</td>
</tr>
<tr>
<td>CTRL + ALT + a</td>
<td>Attach all pages</td>
</tr>
<tr>
<td>ALT + page down</td>
<td>Next page</td>
</tr>
<tr>
<td>ALT + page up</td>
<td>Previous page</td>
</tr>
<tr>
<td>ALT + l</td>
<td>Rotate left</td>
</tr>
<tr>
<td>ALT + r</td>
<td>Rotate right</td>
</tr>
<tr>
<td>ALT + up arrow</td>
<td>Zoom in</td>
</tr>
<tr>
<td>ALT + down arrow</td>
<td>Zoom out</td>
</tr>
<tr>
<td>ALT + s + 1</td>
<td>Rotate and save 90° clockwise</td>
</tr>
<tr>
<td>ALT + s + 2</td>
<td>Rotate and save 180° clockwise</td>
</tr>
<tr>
<td>ALT + s + 3</td>
<td>Rotate and save 270° clockwise</td>
</tr>
</tbody>
</table>

? on any of the pages displays shortcut keys if they are available in that particular function.
“Welcome to Lucinda’s campus,” McPhee said during the event on the third floor of the James E. Walker Library.

“She was among the first to see the potential of using technology in a learning environment,” McPhee said. The LT&ITC was “one of Lucinda’s creative ideas—one of her most important—and it is still a vital entity on this campus.”

Lea retired April 30, 2010, as MTSU vice president and chief information officer after having served here since 1973. Her career spanned the rise of the digital age, and she relentlessly pursued ways of using tech in classrooms and administrative offices.

Lea said during the ceremony that her vision of instructional technology began in the early 1990s at the University of North Carolina-Chapel Hill, when she watched a professor using a variety of media to teach “Romeo and Juliet.”

“It was a wow moment for me,” she told the packed room. “I thought, ‘If only I could bring this back to MTSU.’”

She recalled working with the deans of various colleges to try a “whole new concept”—Master Classrooms equipped and ready for instructors to use a variety of media. By 1995, six of those classes had been created, one in each undergraduate college and in the School of Nursing.

“Most professors were captivated with what they could do in the classroom,” she said, adding that nearly all MTSU classrooms are so equipped now.

After graduating from Tennessee Technological University with a degree in Mathematics in the 1960s, Lea accompanied her husband, James Lea, to Baton Rouge, Louisiana, where he worked on his Ph.D. at Louisiana State University.

Her introduction to computers began as a systems programmer at LSU from 1967 to 1971.

They returned to Tennessee in the early 1970s, and she worked as a graduate assistant in the MTSU computer center while pursuing her master’s degree in Mathematics while James began teaching math.

In 1973, Lucinda Lea became the University’s first faculty liaison, providing academic computer support to faculty members. By 1979, she was the first manager of Academic Computing and in that role helped MTSU successfully integrate administrative computing, academic computing, and telecommunications into one entity—the Office of Information Technology (OIT), which was the precursor to ITD.

She served as director and then assistant vice president of the OIT for nine years before being asked by McPhee to organize and develop a new University division—ITD.

“He realized technology needed to have a seat at the table, and he gave me a seat at the table,” she said.

McPhee joked that he “had the good common sense, with a little prodding from her” to make ITD an organizational division at MTSU. He also praised her as a pioneer for women in academic IT leadership.

Lea was named vice president for Information Technology and chief information officer in February 2002 and led the effort to provide academic and administrative computing, instructional technology, web applications, database management, networking and telecommunications, desktop and classroom technology support, server and storage infrastructure, and the campus ID system.

She was selected by her peers to receive the 2002 Distinguished Service Award in Tennessee Higher Education Computing.

In 2005 Lea was elected by her colleagues to a four-year term on the Board of Directors of EDUCAUSE, a nonprofit association with membership from thousands of education institutions that promote the best use of information technology.

In 2009, Lea was chosen as chair of the board of EDUCAUSE. She served as program chair for the 2005 EDUCAUSE Annual Conference and as a member of the Research Task Force commissioned by EDUCAUSE.

Lea joked at the ceremony that her staff used to dread her return from EDUCAUSE conferences because she would bring back so many new ideas.

“They would say, ‘Oh my gosh, Lucinda has been to another meeting—here we go again,’” she said.

So another “wow” moment came earlier this month, when an emotional Lea helped McPhee unveil the new name of the program.

“I am so grateful for this honor,” she said. “Joy is meant to be shared, and this for me is a joyous occasion. Go Blue!”