Local views of artificial intelligence: Panel answers audience questions (part three)

(As published in The Oak Ridger's Historically Speaking column the week of May 4, 2026)

Carolyn Krause provides a review of a unique Oak Ridge program discussing Artificial Intelligence. It may well be that Oak Ridge is one of the very few places where this discussion could be held and where four experts with credentials such as these could be found. I feel we often undersell ourselves and tend to overlook the very special aspects of being a Science City, a Secret City, an Atomic City, and do not give ourselves credit for being one of the only places in the world where scientific discoveries and dialog about special things take place routinely.

A panel discussion involving scientists and public policy experts who considered the potential benefits and harms of artificial intelligence (AI) was presented Feb. 10, 2026, at the Pollard Technology Conference Center of Oak Ridge Associated Universities. The AI panel kicked off the fourth season of "Our American Roots," which is produced by the Oak Ridge Breakfast Rotary Club and the Oak Ridge Institute for Continued Learning to help build bridges between cultures and communities.

The program, entitled "Railroads, Radio and Artificial Intelligence," initially tried to address two questions: "How do the challenges and opportunities of AI compare with those of the railroads and radio? What lessons can we learn from our knowledge about past disruptive technologies to help us prepare for the uses of AI and their consequences?"

Members of the panel were Stephen Streiffer, director of Oak Ridge National Laboratory; Lynne Parker, associate vice chancellor emerita at the University of Tennessee, former principal deputy director of the White House Office of Science and Technology Policy and former founder of the AI Tennessee Initiative; William Lyons, professor emeritus at UT and associate director at the Institute of American Civics at the Howard Baker School of Public Policy and Public Affairs at UT, and Ashley Stowe, chief research and university partnerships officer at Oak Ridge Associated Universities.

The panel moderator was Alan Lowe, executive director of the American Museum of Science and Energy and the Atomic History Campus at K-25. He provided information about the history of American railroads and radio and asked the panel his questions and later questions from the audience.

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"Will AI increase wealth inequality?"

That was the first question on an index card that Alan Lowe selected to present to the panel.

"Yes," said Stephen Streiffer quickly. "We've seen this with intellectual property technologies. We are already seeing this with some of the AI companies, which have an enormous concentration of wealth in a small number of individuals' hands. Basically, what it means is there's going to be some who benefit tremendously and grow wealthy and others who don't.

"It comes down to a business's ability or an individual's ability to see AI as an opportunity to embrace, adapt to the technology and use it to create wealth or stay away from it.

"I think we have a decision as individuals. How are we going to interact with AI? Are we going to learn how to use it in ways that help us grow wealth, or are we going to stay away from it?"

"I don't think you have to worry about AI taking your job," Lynne Parker said. "I think you have to worry about people who can use AI well taking your job. So, those of you who use AI well on your job will grow wealthier than if you don't use it well and lose your job."

Parker said that algorithms are improving but "we seem to be getting to a point at which more data isn't helping and more computation isn't helping. And we are hitting a saturation point in error rate and also the length of the tasks that AI can do."

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Stowe said that "it comes down to a business's ability or an individual's ability to see AI as an opportunity to embrace, adapt to the technology and use it to create wealth or stay away from it."

Lowe asked a question about a manuscript that described some interactions of police with minorities and included racial slurs. The writer of the question said that AI's response to the manuscript was, "I can't help you with that." So, the questions were, "Is AI culturally insensitive?" and "Has it learned to be insensitive in that way?"

"AI is just a statistical process," Streiffer said. "So, unfortunately, all the writings AI is trained on will be reflected in its responses if you're not careful in how you construct your model and in how you interpret your algorithms.

"Companies work hard on setting up guardrails. Companies test their algorithms and their models to make sure that they're not giving inappropriate responses. It turns out those are actually pretty easy to get wrong. What we must realize is that AI is only as good as the data it's trained on."

According to Parker, to address cultural issues and biases that appear in AI responses, companies hire armies of human beings of different ethnicities and backgrounds that look at the outputs of the AI model and give feedback.

"It's a reinforcement learning process that tells companies that AI response is not an appropriate answer," she said. "This is a way you get some cultural acceptability into these AI systems' responses that you can't get just from learning in the data. And this is a huge process.

It's controversial because a lot of times the people that the AI companies use live in countries that don't have a high wage. It is challenging for companies to keep foreigners busy in low-paying jobs."

Because AI tools can diagnose some diseases accurately and because the United States is facing a shortage of 64,000 primary care physicians, articles in the New York Times and other media have quoted people suggesting a solution to the shortage. Let physician assistants and nurse practitioners use AI to do diagnoses of new patients who would have to wait for weeks to see a primary care physician. This information was the basis of a question about AI and healthcare personnel.

Parker's answer focused on the first use of AI for medical purposes that received approval from the Food and Drug Administration. A primary care physician tells a patient that the individual has diabetes and has a risk of getting or having diabetic retinopathy, damage by high blood sugar to the light-sensitive blood vessels in the retina at the back of the eye. This damage is the leading cause of blindness.

The doctor advises the patient to make a separate appointment to see an eye specialist to determine if the patient has signs of the eye disease. "Most patients don't want to get another doctor's appointment," Parker said. "So, very few patients with diabetic retinopathy would go and get their eyes checked by an ophthalmologist.

"An AI tool was developed and approved that helps the primary care physician detect, based on a very simple eye exam, whether the patient is developing diabetic retinopathy. And then the doctor tells the patient that the test shows that the patient is developing diabetic retinopathy."

The physician then tells the patient to see an ophthalmologist for a comprehensive exam and a treatment plan such as laser surgery. Early detection and treatment of retinopathy are highly effective at preventing vision loss.

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(Note: One of the early creators of an AI tool for diagnosing diabetic retinopathy and other blinding eye disease was Ken Tobin, a former ORNL researcher and the predecessor of Ashley Stowe at ORAU. This technology built on the field of content-based image retrieval and machine learning methods to determine if images of the eyes of any diabetic patient matched similar patterns of disease in a historical patient database.

These methods could both detect and stratify disease with high accuracy. The technology has been used by CVS MinuteClinic® and endocrinologists to provide sight-saving telemedical diagnoses to hundreds of thousands of diabetic patients.)

"That's a way of improving health care outcomes," Parker said. "It's also a way to be able to manage some scarce resources by enabling the use of an AI-driven tool that can help with some basic diagnostics."

Bill Lyons posed a question: What about malevolent AI?

"One of the things we haven't talked about tonight is agentic AI," said Streiffer. A definition by an AI chatbot explains what agentic AI is: "While traditional AI (like a standard chatbot) waits for a specific prompt to give a specific answer, agentic AI is designed to act as an 'agent.' It doesn't just talk; it executes. It can reason through a complex goal, break it down into steps and use external tools to get the job done autonomously." In other words, it's a personal assistant!

The chatbot gave an example. You can ask traditional AI (a chatbot) to write a travel itinerary for Paris, and it will in an instant. An agentic AI (agent) can offer a better service, responding to this request: "Find the cheapest flights to Paris, book a hotel within my budget and add it to my calendar."

Streiffer had more to say about the futuristic goal of creating agentic AI: "So the next frontier is to start combining computing power based on AI with mechanical entities that can actually interact in the real world." He gave an example from the Marvel Universe: an AI-powered aircraft "that has decided that all human beings are evil, so we're going to fight for them."

Lowe then threw out questions about AI and the future. "Is there something new down the road? Is it quantum computing? What are the end goals of AI? What purpose will it serve in 50 years?

"The real goal behind AI is innovation and discovery," Streiffer answered. "How do you do get answers more quickly? How do individuals do things for themselves that would previously have required experts? I think that's really part of the end goal."

Streiffer then talked about the advances in the sciences over the centuries. "The 21st century is the century of biology and medicine," he declared. "The 20th century was the century of physics, and the 19th century was the century of chemistry."

Today's revolutions are taking place more in biology and medicine, he suggested. "There will be a point where we will look back and say that's the moment when we understood what life is," he said.

Previously, he had mentioned a major advance in biomedical research – organoids. They are tiny, three-dimensional, miniaturized and simplified versions of organs grown outside the body from stem cells or patient-derived tumor cells. Organoids are essential for learning how diseases make people sick, testing drugs to find out if they are toxic to humans and determining if a therapy tailored for a patient will be safe and effective.

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Looking ahead, Streiffer said that it is possible that biomedical researchers will learn how to grow an artificial brain.

"If you could grow an intelligent brain in a way that is ethical, you would have a very different proposition than an AI tool that runs on a huge dataset," he said. "I think the creation of an organic brain is something we must look out for in the 21st century."

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Thank you, Carolyn, the AI Panel has amazing breadth of knowledge on AI, and you have captured it well. Historically Speaking readers have been provided insights to AI from experts in the region. Only in Oak Ridge might something like this be possible as we are truly blessed by having these folks living in our midst.

The annual Our American Roots program continues to bring us exceptional programs. Look forward to even more in the future.

The AI Panel of William Lyons, professor emeritus at UT and associate director at the Institute of American Civics at the Howard Baker School of Public Policy and Public Affairs at UT, Ashley Stowe, chief research and university partnerships officer at Oak Ridge Associated Universities, Alan Lowe, Executive Director and CEO of American Museum of Science and Energy and Atomic History Campus at K-25 who moderated the panel, Lynne Parker, associate vice chancellor emerita at the University of Tennessee, former principal deputy director of the White House Office of Science and Technology Policy and former founder of the AI Tennessee Initiative, and Stephen Streiffer, director of Oak Ridge National Laboratory (Courtesy of Ray Smith)

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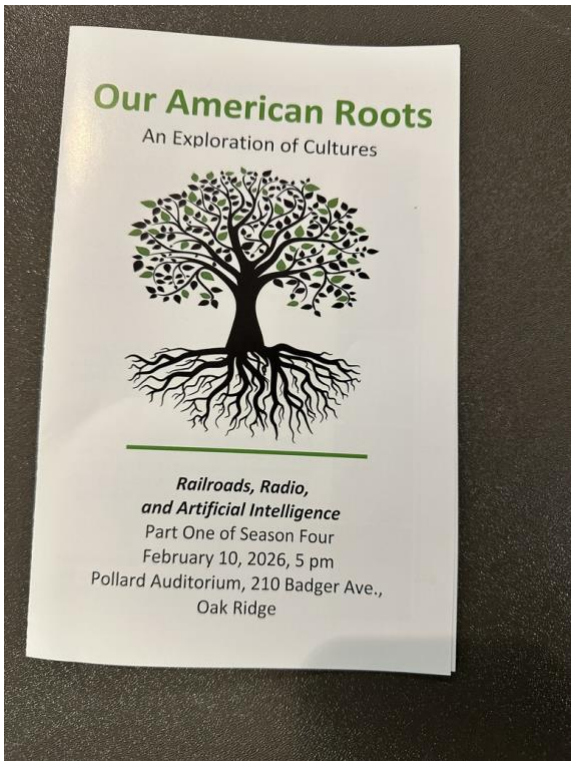

Our American Roots program poster (Courtesy of Ray Smith)