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## A Message From Leadership

Welcome to the second edition of AI@DOE.

Recently, Secretary Perry stood up the Department of Energy's Artificial Intelligence and Technology Office (AITO) which will directly report to me, the Under Secretary for Science.



DOE established AITO to harness and accelerate the Department's world-class leadership in high-performance computing, facilities, and team science in applying AI across the entire National Laboratory system to increase the pace of discovery in energy, materials science, health care, transportation, and beyond.

I want to highlight that on October 2nd DOE is holding the Innovation XLab Artificial Intelligence Summit hosted by Argonne National Laboratory in Chicago. Innovation XLab is a series of summits showcasing the remarkable assets and capabilities of the Department's National Laboratories. These summits facilitate a two-way exchange of information and ideas between industry, universities, investors, and end-use customers with Lab innovators and experts. This summit will focus on the critical role Artificial Intelligence will play in driving innovation and maintaining our nation's economic competitiveness.

Under Secretary for Science Paul Dabbar



DOE Fueled AI is Transforming Health Research

## This Month's Highlights

### Secretary Perry and Under Secretary Paul Dabbar meet with Bill Gates

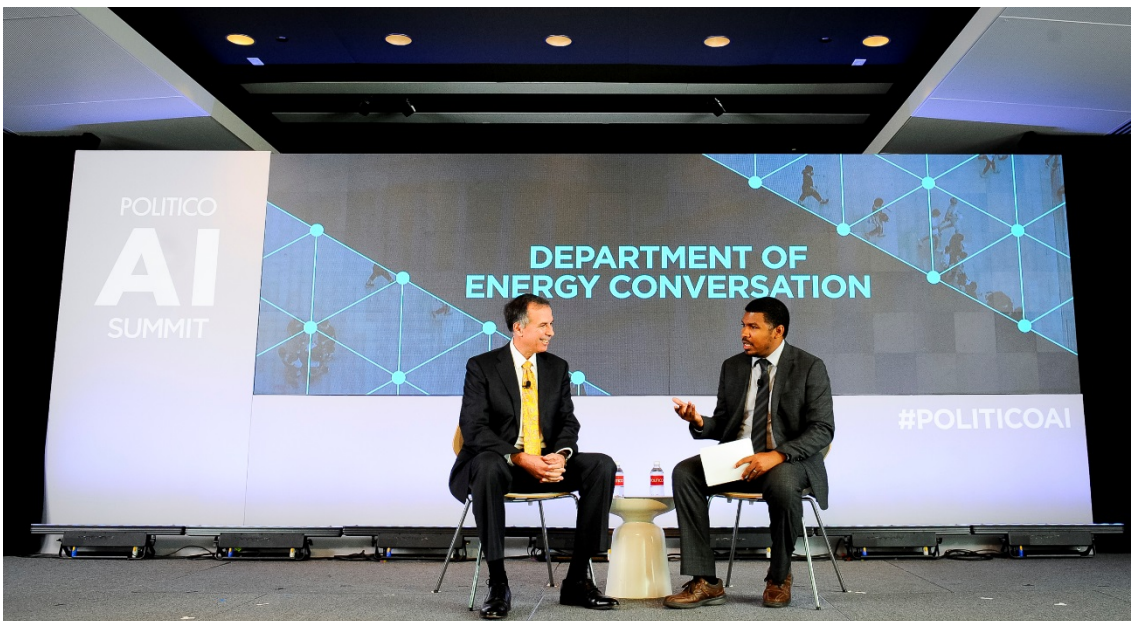
This month, Secretary Perry and Under Secretary Dabbar met with Microsoft founder Bill Gates to highlight the Department of Energy's (DOE's) newly created Artificial Intelligence and Technology Office (AITO) and its mission to concentrate and coordinate our efforts as a world-leading enterprise in the development, delivery and adoption of AI, and thereby positively impact American lives.





## Deputy Under Secretary for AI Speaks at POLITICO AI Summit

On Tuesday, September 17th, Deputy Under Secretary for Artificial Intelligence Dimitri Kusnezov was a featured speaker at POLITICO's AI summit at the Newseum in Washington, DC. Dr. Kusnezov sat down with POLITICO States Editor Darius Dixon to discuss the work DOE is doing in artificial intelligence.



## Under Secretary Mark W. Menezes Meets with Microsoft

Under Secretary for Energy Mark W. Menezes recently visited Microsoft headquarters to discuss energy innovation, cybersecurity, quantum, and the role of AI in building a more robust and resilient energy sector. The private sector is and will be an essential partner in advancing our AI capabilities, and cloud and AI technologies can play an important role across the energy sector from enhancing efficiency, balancing the grid and protecting critical infrastructure.

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## AI@DOE News

### Blog Post: DOE Fighting Cancer

As part of DOE's AI acceleration, scientists are using supercomputers to solve problems in entirely new ways, and discover the complex, often unexpected, correlations hiding within big data. Through DOE's CANcer Distributed Learning Environment, or CANDLE, scientists are working to couple the power of the Department's supercomputing systems with deep-learning techniques to find new ways to fight cancer at the cellular and even molecular level.

[Read More Here](#)

### ARPA-E Announcement: New Funding Opportunity

DOE's Advanced Research Projects Agency-Energy (ARPA-E) has announced a new funding opportunity for its DIFFERENTIATE (Design Intelligence for Formidable Energy Reduction Engendering Numerous Totally Impactful Advanced Technology Enhancements) program. The effort seeks to incorporate machine learning into the energy technology development process, thereby dramatically accelerating the pace of energy innovation.

[More Information on the Program Here](#)

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## AI in the News

### AI Ups Response Time when Grid Goes Down

Researchers at Pacific Northwest National Laboratory are using a type of AI called [Deep Reinforcement Learning](#) that will spot patterns and solve unforeseen problems using a set of algorithms that mimics the brain. These adaptive emergency control algorithms will work to provide decision support to grid operators under extreme conditions.

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## Careers in AI



### Vitalij's Story

As a young man, Dr. Vitalij Pecharsky was always interested in having a career in STEM. Vitalij had a passion for math, physics, and chemistry, but it was the influence of his High School Chemistry teacher that tipped the scales. After earning several degrees in chemistry, he decided to take his skills over to the United States at the world-renowned Ames National Laboratory. Today, Vitalij is using AI as a tool to speed up his discovery process to drastically reduce the electricity used on refrigeration. [Read his story here.](#)

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# What's Coming Up?

## AI for Science Town Hall

DOE's National Laboratories are convening town hall meetings that will engage the DOE science community in a series of broad and open discussions about opportunities that can be realized by advancing and accelerating the development of AI capabilities specifically for science and science use cases. The first three town halls were held at Argonne National Lab, Oak Ridge National Lab, and Berkeley National Lab. There is one upcoming in Washington D.C. on October 22<sup>nd</sup> and 23<sup>rd</sup>.

[Join us at AI for Science!](#)

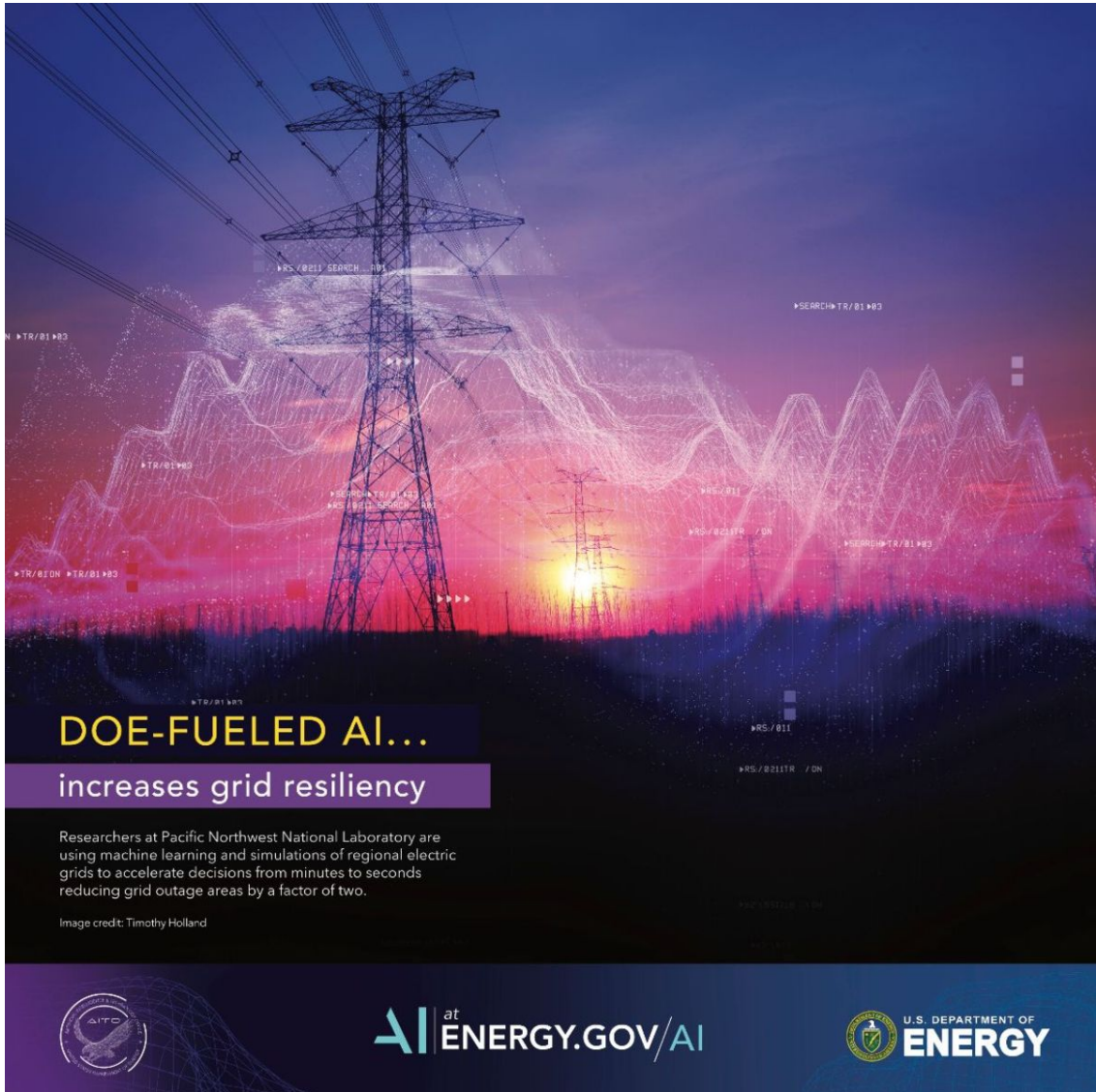


## InnovationXLab Artificial Intelligence Summit

InnovationXLab: Artificial Intelligence will be hosted by Argonne National Laboratory in Chicago on October 2<sup>nd</sup> and 3<sup>rd</sup>. This summit is the fourth in DOE's InnovationXLab series that showcases the assets and capabilities of DOE's National Laboratories. This event will focus on how advanced AI tools and techniques can support business transformation and drive economic growth.

[Join us for InnovationXLab!](#)

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**IMAGE OF THE WEEK:**

Researchers at Pacific Northwest National Laboratory are using machine learning and simulations of regional electric grids to accelerate decisions from minutes to seconds reducing grid outage areas by a factor of two.



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