

IBM and the University of Illinois Urbana-Champaign Plan to Launch New Discovery Accelerator Institute

- **Ten-year collaboration between IBM, UIUC and the State of Illinois will be backed by a \$200 million investment**

Armonk, NY and Urbana-Champaign, IL -- May 26 -- IBM (NYSE: [IBM](#)) and The Grainger College of Engineering at the University of Illinois Urbana-Champaign plan to launch a large-scale collaboration designed to increase access to technology education and skill development, and to combine the strengths of academia and the industrial sector to spur breakthroughs in emerging areas of technology. Specifically, the planned collaboration will focus on the rapidly growing areas of hybrid cloud and AI, quantum information science and technology, accelerated materials discovery, and sustainability to accelerate the discovery of solutions to complex global challenges.

This planned collaboration will be centered in the creation of the new IBM-Illinois Discovery Accelerator Institute, housed within The Grainger College of Engineering at the University of Illinois Urbana-Champaign (UIUC). It will be funded by a ten-year planned research investment from IBM and UIUC, complemented by a major new building project which will house research activities in quantum information, high-performance computing, hybrid cloud and networked environments with support from the State of Illinois, bringing total investments to more than \$200 million. The newly planned Discovery Accelerator Institute will feature deep collaborations to develop communities of discovery across IBM, Grainger Engineering and the UIUC campus; research funding for UIUC in hybrid cloud, quantum information, materials, and sustainability; hiring of additional faculty and talent at UIUC; and a new facility for research in computing and quantum technologies at UIUC.

“The IBM-University of Illinois collaboration is a tremendous development for our state and a testament to Illinois’ leadership as a hub of quantum research and artificial intelligence development,” said Illinois Governor J.B. Pritzker. “This IBM investment will not only lift up a world class educational institution, but also will invite national and international scientists, entrepreneurs, businesses, and innovators to Illinois. Our state has made nation-leading commitments by investing \$200 million to support groundbreaking work at the Chicago Quantum Exchange, as well as \$500 million for the Discovery Partners Institute and the Illinois Innovation Network. Following that, the federal government awarded our state more than \$200 million in grants for two National Quantum Information Science Research Centers, along with two National Science Foundation artificial intelligence grants. The IBM Institute cements The Grainger College of Engineering and

the entire University of Illinois system at the forefront of technological advancements in quantum computing, AI, and hybrid cloud, and it sets our state up to become a serious technology industry leader on the international stage. I am thrilled to welcome IBM to Illinois.”

The planned Institute will emphasize initiatives to increase access to STEM education and high-tech workforce development, as well as expand the collective research capacity of IBM and UIUC by tapping into the intellectual talent of students, faculty and industry researchers campus-wide. Together, these teams will tackle the urgent complex challenges faced by industry and academia, including the need for a more secure and flexible artificial intelligence-driven global cloud infrastructure, advancing the frontiers of quantum computing and technologies, applying technology to the discovery and creation of new materials, and engineering solutions for sustainability and the environment.

When launched, the Discovery Accelerator Institute will serve as a leading model for collaboration between the private sector and academia. It will facilitate connected and interactive research, weaving together the strong scientific foundation of an academic institution and the real-world translational expertise of a large industrial research organization.

In the planned Discovery Accelerator Institute, IBM Research teams and University of Illinois faculty and students will work side-by-side on projects to accelerate:

- **Technological innovations in hybrid cloud and artificial intelligence** to expand the potential of edge computing and cloud security capabilities across public and private clouds. As the high-performance computing needs of global society ramp up, the ability to access curated data and processing power from multiple distributed data centers and workloads will be paramount. With an emphasis on data protection and isolation, IBM and UIUC teams will collaborate to explore how open-source innovation and artificial intelligence can drive the next era of cloud computing, as well as defining the essential workforce skills necessary for running increasingly powerful and critical workloads.
- **Quantum** information systems, architectures, materials, and algorithms to advance quantum computing as an industry, including a multi-node quantum testbed that enables researchers to explore and implement new ideas for distributed quantum processing and quantum networks. With UIUC’s strong interdisciplinary leadership in quantum technologies across physics, computer science, electrical and computer engineering, and materials science, and IBM’s world-class expertise in quantum computing, researchers will aim to envision and realize the future of hardware and software for quantum information. IBM will also work closely with UIUC and other local partners on workforce development through the development of educational curriculum, graduate programs that combine academic research with industry experience at IBM Quantum in Yorktown Heights, and a focus on the diversity and

inclusion of the broader quantum workforce and community.

- **Materials discovery driven by AI and computation** to unlock accessible and transformative solutions to global challenges. For example, research teams will tap into AI to investigate potential new materials for applications like affordable and sustainable energy generation and storage, and more environmentally-friendly electronics and transportation materials. Additionally, scientists and students will explore how AI can enable new, accelerated, and autonomous discovery of molecular materials.
- **Sustainability-focused innovation and discovery** to address grand climate challenges through carbon accounting, capture, utilization, and sequestration. Powered by IBM Research and leveraging UIUC's technology strengths, extensive domain expertise in climate science, sustainable supply chains, and CO2 management strengths, researchers will explore technologies to create a sustainable hybrid cloud and climate-smart supply chains; and accelerate the discovery of new materials for CO2 capture and conversion.

“I couldn't be more excited about the new model of partnership we are building with the University of Illinois-Urbana Champaign,” said Arvind Krishna, CEO of IBM. “The Discovery Accelerator Institute will help drive innovations in hybrid cloud, AI and quantum computing, which are critical for the future of business and society. We're bringing together some of the brightest minds across both the industry and academia. I'm eager to see the groundbreaking research and solutions the teams will pioneer – from the discovery of new materials to carbon capture.”

“This institute with IBM is a pioneering new model of how we can build academic and researcher collaboration into technology and innovation at unmatched excellence and scale,” said Robert J. Jones, chancellor of the University of Illinois Urbana-Champaign. “What excites us the most is imagining the exponentially expanded possibilities in these new emerging fields that will define the 21st century.”

In addition to advancing technology research, the Discovery Accelerator Institute, IBM and UIUC will aim to drive job creation, industrial sector growth and new economic growth for the State of Illinois. The Institute aligns with the goals of the Illinois Innovation Network, including the Discovery Partners Institute of the UI System, and the mission of P33, to further seed and expand workforce development and diversity for future science and information technology opportunities across the state. Additionally, IBM and the U of I intend to fuel and broaden a more diverse talent and leadership pipeline for the growing hybrid cloud, AI, quantum information, materials discovery, and sustainability ecosystems.

“This new collaboration builds on the foundational success of the IBM-Illinois Center for Cognitive Computing Systems Research ([C3SR](#)) since 2016. Building on that success, new collaborations between IBM

researchers and Illinois faculty will allow for faster translation of bleeding-edge innovation to society,” said Rashid Bashir, dean of The Grainger College of Engineering. “We are thrilled to be enhancing our shared vision of advancing hybrid cloud, quantum, materials, sustainability and the future of discovery itself with IBM.”

About The Grainger College of Engineering

The Grainger College of Engineering at the University of Illinois Urbana-Champaign is one of the world's top-ranked engineering institutions, and a globally recognized leader in engineering education, research, and public engagement. With a diverse, tight-knit community of faculty, students, and alumni, Grainger Engineering sets the standard for excellence in engineering, driving innovation in the economy and bringing revolutionary ideas to the world. Through powerful research and discovery, our faculty, staff, students and alumni are changing our world and making advances once only dreamed about, including the MRI, LED, ILLIAC, Mosaic, YouTube, flexible electronics, electric machinery, miniature batteries, imaging the black hole, and flight on Mars. The world's brightest minds from The Grainger College of Engineering tackle today's toughest challenges. And they are building a better, cooler, safer tomorrow.

Visit <https://grainger.illinois.edu/> for more information.

About IBM

IBM is a leading global hybrid cloud and AI, and business services provider. We help clients in more than 175 countries capitalize on insights from their data, streamline business processes, reduce costs and gain the competitive edge in their industries. Nearly 3,000 government and corporate entities in critical infrastructure areas such as financial services, telecommunications and healthcare rely on IBM's hybrid cloud platform and Red Hat OpenShift to affect their digital transformations quickly, efficiently and securely. IBM's breakthrough innovations in AI, quantum computing, industry-specific cloud solutions and business services deliver open and flexible options to our clients. All of this is backed by IBM's legendary commitment to trust, transparency, responsibility, inclusivity and service. Visit www.ibm.com for more information.

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