Oracle Focus for Academic Research

Collaborate, innovate, accelerate

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Safe harbor statement

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Molecular Simulation of Nicotine Receptors Simulating SARS-CoV-2 Protein Dynamics

University of Bristol

•Using High Performance Cloud Computing and Virtual Reality in 2 research programs studying both Nicotine Receptors for addiction treatment and SARS-CoV-2 Protein Dynamics in COVID-19







Powerful Vaccine Discoveries Accelerated

Developing a New Class of Synthetic Vaccine to Outpace Infectious Diseases



ADDomer: Synthetic multiepitope display scaffold for next generation vaccines. We developed ADDomer, a next generation synthetic vaccine that mimics features of Chikungunya virus, to efficiently prime the immune system to protect against this pathogen.

- University of Bristol and Imophoron researchers wanted to design a novel vaccine delivery system that is easy to produce in high volumes—an advantage for combating fast spreading infectious diseases.
- They envisioned a vaccine delivery system from a lab-produced, thermostable protein molecule that could be readily manufactured at low-cost and did not require refrigeration to retain viability—important for vaccine shipment to and storage in warmer climate locations.
- On-premise super computers needed the power of enterprise computing to process the very large data sets from University of Bristol's cryo-electron microscope which is integral to digital modeling for their pioneering vaccine research. University of Bristol researchers turned to Oracle's high-performance cloud infrastructure to develop a novel computational approach to create an accurate, high resolution digital model of their synthetic vaccine in a fraction of the time and at a much lower cost than previously thought possible.

COVID-19 Impact Monitor

University of Oxford

Epidemiologists estimate R values for COVID-19 using a SEIR model
Researchers at University of Oxford are enhancing SEIR with Machine Learning to predict local R numbers and contact rates.

ORACLE for Research





Advancing Climate Change Prevention

Earth Sounds the Climate Change Fire Alarm

•"We can simulate carbon capture sequestration scenarios, address complex environmental problems, and drive meaningful change in the world. Oracle has helped us break the barrier of computational power in the lab."

•—Saswata Hier-Majumder
 •Reader in Geophysics, Royal Holloway, University of London







Rising global temperatures. Warming oceans. Shrinking ice sheets. Rising sea levels. Retreating glaciers.

Examples of the Earth's climate change fire alarms exponentially emitted into the Earth's atmosphere human activity. Royal Holloway University of London geophysics professor Saswata Hier-Majumder and and Paul-Ross Thomson) are responding to the climate change by drastically reducing atmospheric sequestration—capturing atmospheric carbon and permanently storing it in underground rocks. Accelerating carbon capture technology is essential in capture technology methods impeded predicting University of London researchers needed a new

Accelerated Cancer Research

Uncovering Hidden Lifesaving Knowledge

•"3D digital cancer pathology creates a terabyte of data per patient. This challenged us as never before to scale our analysis pipelines, be they for detecting millions of cancer cells within images, warehousing these cells' many features, or training deep neural networks to interpret those features and predict patient outcome. Oracle for Research rapidly conveyed the Oracle Cloud Infrastructure and know-how to address these computational needs."

•— Dan Ruderman, PhD, Lawrence J. Ellison Institute for Transformative Medicine of USC



Lawrence J. Ellison Institute for Transformative Medicine of USC



May 20, 2020

Students from two fields of the Leon Kozminski Academy, Big Data Science and AI Management, will now have access to the latest software developed by Oracle; this will ensure that they can enter the labor market as data analysis experts.

Membership in the Oracle Data Science Early Adopter program will bring many benefits to the university:

- Full access to Oracle Data Science Cloud Environment
- Possibility of creating innovative solutions based on this environment;
- Participation in the development of data science products;
- Direct weekly communication with Oracle Product Development
- Ability to ask proactive troubleshooting questions
- Ability to share successful business projects with business users.



Kozminski University - Early Adopter of Oracle Data Science Platform



January 7, 2021

Hogeschool van Amsterdam improves the student experience with Oracle Digital Assistant.

Hogeschool van Amsterdam (HvA – also known as the Amsterdam University of Applied Sciences) was established in 1993 to support the Netherlands' growing demand for professional training and practical education. HvA is now one of the largest institutions in the Netherlands, supporting approximately 50K students with 4K faculty and staff.

HvA and InHolland are just two examples of Oracle's higher education customers using chatbots to improve the student experience. Other examples include the <u>University of Adelaide</u>, who uses their chatbot to determine international eligibility for international students and <u>Loyola Chicago</u>'s LUie (which is integrated with Campus Solutions) received a PeopleSoft Innovation Award for its ability to answer FAQs and COVID-19 related queries.





Oracle Digital Certificates Solution

In the face of fast-changing demographic and economic drivers and student expectations, the current processes for issuing and verifying student certificates are too inefficient and time consuming. They can also lead to fraudulent or counterfeit certifications.

The Oracle Digital Certificates Solution, built on the <u>Oracle Blockchain Platform</u> (based on Hyperledger Fabric), provides a complete, end-to-end solution for educational institutions to issue verifiable tamper-proof and secure credential certification that improves the student experience after graduation and improves operational efficiency. The solution enables institutions to issue digital certificates along with transcripts and provide self-sovereign capability to the students who can share them securely with third parties through an access token.

This solution has been successfully deployed in production by customers like **China Distance Education Holdings Limited (CDEL)** and **Taibah Valley University**. CDEL uses Oracle Blockchain to share educational records and professional certifications across many educational institutions to help employers and recruiters verify the educational credentials claimed by individuals._

Many other institutions like national universities, employment agencies, government organizations, professional skills academies and universities that provide student grants/scholarships are using this solution as part of ongoing or planned pilots.







Gonzaga University upgrades to Oracle Cloud for security and disaster recovery



American Career College and West Coast University Uses Human-Resources Process Automation to Focus on Nurturing Faculty Universidad del Caribe -Republica Dominicana lowers costs by 70% using Oracle Cloud



Sharda University deepens learning with Oracle Cloud



HCC Prepares for Cloud with Oracle Engineered Systems CODAH

CODAH Has Sped RFI Cycles by 50%+ from Roughly Seven to Ten Days to on Average Two to Four Days Penn Foster

Multi-Channel Service Support Provides Competitive Advantage PINGAT XD

Pingat XD Reduces Scope Changes by 20% Using Aconex Connected BIM

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Q&A